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SUBMISSION

*to the*

ROYAL COMMISSION ON COAL (1959)

*by*

DOMINION COAL COMPANY, LIMITED



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ROYAL COMMISSION ON COAL (1959)

DOMINION COAL COMPANY, LIMITED





## INTRODUCTION

We are pleased to have the opportunity of appearing before this Commission to express our views with respect to the state of the bituminous coal industry and its future outlook in Canada, particularly insofar as it concerns this Company.

For more than two centuries, bituminous coal has been one of the primary sources of heat and power for the major nations of the world; however, during the past decade, the coal industry throughout the world, and Nova Scotia is no exception, has carried on a losing struggle to resist the inroads of competing sources of energy. Oil and Natural Gas have progressively succeeded in displacing coal in Canada. Hydro Electric power, which is in abundance in the Province of Quebec, has provided further competition.

The use of alternative forms of fuel and energy has created drastic cut-backs in production in coal mining throughout the world and this is evidenced by huge coal stockpiles and widespread unemployment in the mining communities of the United Kingdom and Europe, as well as in the United States and Canada. In this connection, it is of importance to recall the Urwick Currie Report to the Royal Commission on Canada's Economic Prospects in 1956 concerning the Nova Scotia coal industry reported at Page 21, "The surplus of coal over the established demand is likely to reach sizable proportions



in 1959 at a time when the impact of the St. Lawrence Seaway may begin to be felt and the Ontario and Quebec market can be expected to be receiving supplies of Natural Gas at highly competitive prices." This has been borne out and, as a matter of fact, approximately 2,000,000 tons of our coal have already been displaced by other competitive energy sources.

Unfortunately, the position of Nova Scotia coal has not been made easier in today's competitive markets because of its high production costs which have increased approximately 40% within the last ten years. This is in spite of substantial sums spent on mechanization. In contrast, American coal costs have remained practically constant in the same period.

In 1944, some 36 million tons of bituminous coal were consumed in Canada. Of that amount, 12 million were produced by mines in this country. Another 24 million tons were imported. Of the total amount, Dominion Coal Company mines produced five million tons, which means that we enjoyed some 14 per cent of the entire Canadian coal market.

However, by 1958 Coal consumption in Canada had dropped to 19.5 million tons. This indicates a shrinkage of about 40 per cent. Of that 19.5 million tons total, U.S. coal represented 11.8 million tons. Of the remaining 7.7 million tons, which was Canadian coal, our coal represented close to 4.5 million tons.





These figures indicate that Nova Scotia coal in 1958 represented some 22 per cent of all the bituminous coal used in Canada. In other words, Nova Scotia's participation between 1944 and 1958 has gone up from 14 per cent to 22 per cent of the total bituminous coal consumed in Canada, although tonnage supplied actually went down.

Most of our coal operations are carried on by Dominion Coal Company, Limited, excepting Old Sydney Collieries and Acadia Coal, which are owned by Dominion Steel and Coal Corporation, Limited. Consequently, whatever applies to the coal operations of Dominion Coal Company, Limited applies to the mines owned by Dominion Steel and Coal Corporation, Limited.

The Brief is divided into three major parts, namely - Part I, Production; Part II, Transportation; and Part III, Marketing, with Summary and Conclusions.





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PART I

PRODUCTION

NOVA SCOTIA COAL FIELDS:

Coal fields in the Province of Nova Scotia are located in Cape Breton and Inverness Counties on Cape Breton Island, and in Pictou and Cumberland Counties on the mainland.

At the present time the Dominion Coal Company, Limited, Old Sydney Collieries and Acadia Coal carry on mining operations in the Pictou field and in the Sydney field of Cape Breton County, the latter being the largest and most important coal field in the Province.

The Sydney coal field extends from Mira Bay in the south-east to Kelly's Mountain in the north-west, a distance of 35 miles. In the easterly direction it is terminated against rocks of older age, while in the westerly direction it is terminated by the Kelly Mountain fault. The coal seams crop along the seacoast and dip seaward at a pitch of about 10%, although the pitch varies considerably in local areas and in some places exceeds 30°. The field is quite regular and contains few faults but its contours are changed locally by a number of anticlinal folds, which run in a northeasterly direction.

The seams lie between strata made up very largely of shales and fireclays. The remainder are weak sandstones. The strata are, for the most part, thin bedded. The shales are weak and will not





remain in position without support. The seams, as they exist in the various synclinal folds, are as undernoted:

<u>Morien Basin</u>		<u>Glace Bay Basin</u>		<u>Lingan Basin</u>		<u>Sydney Mines Basin</u>	
						Cranberry Head	3'7"
						Strata	250'
						Lloyd's Cove	3'9"
						Strata	270'
		Hub	4'7"	Barracois	5'0"	Chapel Point	3'9"
		Strata	375'	Strata	3'0"	Strata	320'
Blockhouse	8'0"	Harbour	5'8"	Victoria	6'6"	Main Seam	4'10"
<hr/>							
Strata	570'	Strata	250'	Strata	235'		
		Boutilier	3'9"	Ferryhouse	3'0"		
		Strata	90'	Strata	75'		
		Back Pit	3'0"	Nothn. Head	4'0"		
		Strata	112'	Strata	75'0"		
Gowrie	5'0"	Phalen	7'0"	Lingan	5'6"	Indian Cove	3'6"
Strata	210'	Strata	130'	Strata	900'	Strata	215'
Spencer	3'6"	Emery	3'6"			Collins	3'0"
Strata	340'	Strata	425'				
Lg. Beach	3'0"	Gardiner	4'3"				
Strata	650'	Strata	475'				
Coal Brook	3'6"	Mullins	4'6"	Mullins	5'0"		
Strata	600'	Strata	1600'				
Tracey	5'0"	Tracey	5'0"				
<hr/>							

(\*)

On the south side of Sydney Harbour, the great part of the coal field is held by the Dominion Coal Company, Limited under leasehold from the Province of Nova Scotia, while on the north side of the harbour most of the field is held under lease by the Nova Scotia Steel and Coal Company Limited a subsidiary of the Dominion Steel and Coal Corporation, Limited and operated by Old Sydney Collieries, Limited. Almost all of the coal seams of highest quality lying under



land areas have been worked out and production from these seams is now obtained only from their submarine extensions. The Dominion Coal Company, Limited operates Collieries Nos. 4, 12, 16, 18, 20 and 26, and Old Sydney Collieries operates Princess and Florence Collieries.

The Pictou coal field is a comparatively small one, centering about the Town of Stellarton. It is approximately 10 miles long and about three miles wide. It contains three series of coal seams. The oldest series -- the so-called Westville series -- consists of four seams which dip in a northeasterly direction. The Upper, or Westville main seam, is a high quality seam which has been worked along its entire outcrop and to a very considerable depth. The second, or Scott Pit seam, is of rather poor quality but has been extensively worked. The third and fourth seams are of very inferior quality and have not been worked to any extent.

The Stellarton Series, which lies largely within the Town area of Stellarton, contains seven coal seams which pitch in a direction slightly east of north. The seams are thick and the upper five contained coal of good quality in the central part of the area. The coal quality deteriorates sharply on their eastern and western extensions and on the northern side of the main synclinal basin in which they lie. These seams have been extensively worked over a period of nearly 150 years. Operations in this series of seams have now stopped



because of the exhaustion of coal reserves of good quality or due to the serious hazards which would exist if operations were continued. The strata in this series are much interrupted by numerous faults and by local foldings.

The youngest, or Thorburn series of seams, is centered about the Village of Thorburn. This series contains five seams, four of which have been extensively worked and are of quite good quality. The fifth seam is of inferior quality. These seams pitch toward the northwest and the highest quality coal lies in the southwestern flank of the basin they occupy. Generally speaking, the seams deteriorate both in thickness and quality on the northeastern side of the basin to such an extent that they are unworkable.

The field to the north and to the south is cut off by heavy faults. The strata in which the Pictou seams lie consist very largely of thin bedded shales which are very weak and which require much support when exposed. (\*)

#### COAL QUALITIES AND CHARACTERISTICS:

The seams which have been and are being worked in the Sydney field contain high grade bituminous coal of high volatile, low to medium ash and medium to high sulphur contents. The volatile matter in these coals varies from 34 to 38%, the fixed carbon from 54 to 57%, the sulphur from 0.7 to 5% and the ash from 4 to 12%. The calorific value of the coal varies from 13,300 B.T.U.'s to 14,400 B.T.U's.

(\*) Appendix No. 2





The fusion temperature of the ash is low, averaging only 2,050° F. (\*)

The best quality coal is found in these seams on the northern flank of the Bridgeport anticline and in the Sydney syncline. To the northwest and to the southeast the ash and sulphur contents increase. The coals are highly suitable for domestic and industrial use. They are rather friable, however, and degrade in size through handling. The coals readily adapt themselves to the coking process but because of the high volatile and sulphur contents they are not as suitable for the manufacture of high grade metallurgical coke as some coals are. The high volatile contents renders coke made from these coals structurally weak and incapable of carrying heavy burden in the blast furnace.

In some types of industrial boilers the low fusion temperature of the ash is a distinct disadvantage, especially when such boilers are operated at high ratings. With proper preparation, the ash contents of all the coals can be materially reduced but, unfortunately, the sulphur content cannot. Irrespective of the total sulphur content it cannot be reduced more than one half of 1% by washing.

The high quality coals of the Pictou field are highly volatile, medium to high ash and low sulphur content coals. The volatile content varies from 28 to 31%, fixed carbon from 52 to 59%, ash from 8 to 14%, and the sulphur content is generally less than 1%. The calorific value of the coal varies between 12,900 and 13,500 B.T.U.'s and the fusion temperature of the ash exceeds 2,400° F. The coals are structurally stronger than those of the Sydney coal field and stand

(\*) Appendix No. 3



handling with less size degradation. The ash content is finely disseminated throughout the coal and cannot be greatly reduced by washing, except at very low gravities. The coal is strongly coking and is well suited for industrial and domestic uses. It makes a somewhat better coke for metallurgical purposes than do the Sydney coals, but cost delivered to Sydney makes its use prohibitive.

#### COAL RESERVES:

In the Sydney coal field the major reserve tonnages of coal lie in the submarine extension of the seams. Geological data indicates that the seams are continuous on the frontage as we know them for at least five miles from the coastline. It has been possible to check in some small degree some of these submarine reserves by borehole from advance working in other seams. For the purpose of calculating reserves the limit of working has been assumed to be either five miles from the coastline or a strata cover of 4,000 feet. Tonnages remaining in land areas have been checked by drilling. Reserves have been divided into two categories -- probable and possible.

High quality coals within the areas defined are classed as probable reserves and these amount to 388,695,000 tons. Coals of lower quality and those about which less is known have been classed as possible reserves. These possible reserves amount to 558,429,000 tons. The total reserves in the Company's holdings in the Sydney field are, therefore, estimated to be 947,124,000 tons. Further subdivision



of reserves has been made to indicate the high grade coals which can be economically recovered based on conditions as we know them. By economic coal reserves we mean those probable reserves that can be mined at a cost approximately equal to our present operating costs and based on present labour and material costs. These are estimated at 319,540,000 tons. (\*)

In the Pictou field probable reserves have been determined by drilling and by underground workings. These are estimated to be 3,579,000 tons and lie in the McBean seam. Estimates show possible reserves of 9,100,000 tons located in the Westville main seam underlying Stellarton and in the MacKay seam near Thorburn. It is estimated that the economic reserves of the probable coal reserves as defined above amount to 2,830,000 tons.

#### STRATA CONDITIONS AND THEIR BEARING ON OPERATIONS:

As already mentioned the great proportion of the strata overlying and underlying the coal seams are weak thin bedded shales and fireclays. When such strata are exposed by excavation, even at shallow cover, support is required to hold up the roof. As greater covers are reached roof supports must be stronger and more closely spaced. At these greater depths there is a tendency for the pavements of the excavation to yield and to be thrust up into the roadways. This condition has forced the operator into a longwall method of mining because generally it was not economically possible to maintain



roadways during a pillar drawing operation once a cover of 800 feet had been reached. Examination of the mine plans will show where many pillar sections have had to be abandoned because operations could not be carried on successfully. The weak nature of the strata does, however, permit total extraction to be carried on in the submarine areas at a lesser cover than would have been possible with safety had the bulk of the material overhead been predominantly sandstone, but it also adds materially to the cost of construction and cost of maintenance of roadways which must be kept up for haulage and ventilation purposes.

In the Pictou field the weak nature of the strata in the vicinity of the coal seams necessitates the use of much roof support, and in most cases the seam pavements yield and heave into the passageways requiring constant maintenance following construction.

The McBean seam, however, has a stronger than usual pavement for that field and in most roadways in the seam little difficulty is experienced from heaving. The weak nature of the roof, however, forced the operator to abandon a proposed room and pillar method and to operate the seam with an advancing longwall system.





### METHODS OF WORK:

As early as 1720 coal was known to exist in the Sydney field because outcrops were exposed in the cliffs along the coastline. Operations were started in these cliff outcrops and from them coal was supplied to settlements along the neighbouring coast. It was about 1827 before operations were started on any great scale. A number of shallow shafts were sunk about that time and organized mining started. The history of the operations carried on between 1827 and 1945 has been detailed in previous reports.

By 1945 methods of work most suitable for the conditions existing had been developed and use was made of mechanical aids wherever that was possible. With the exception of the actual loading of coal the operations had been highly mechanized. The frontage of the coal field had been allocated to the various operating collieries giving, generally, a frontage of three miles to each operation which was considered to be the most economic frontage under the conditions which existed. Where total extraction was possible the method of work used was longwall advancing and where total extraction was not possible, because of lack of sufficient cover, rooms were driven with ample pillar percentage left standing to support the overlying strata. Where possible, electrically powered equipment was used except in the immediate vicinity of the coal faces where machinery was operated by compressed air.



By 1945 it was evident that further mechanization must be undertaken in order to increase productivity and improve production costs and at the same time to improve the quality of the product. A complete study of the long-range operation of the field was undertaken by Company engineers and consultants and examination was made of all existing types of equipment for coal getting and underground transportation. This study was completed in 1948 and a programme of continued mechanization was undertaken.

From this study, plans were made for the mechanical getting of coal in all the operations where physical conditions permitted the use of such equipment. This called for better and more flexible transport facilities, for larger capacity mine cars, for preparation plants and for the driving of two stone drifts, one at Princess Colliery to permit the colliery's output to be increased and the other near No. 20 Colliery. The No. 20 Colliery tunnel was to be the main haulage artery for the coal in all seams fronting the area allocated to Nos. 4 and 20 Collieries. The cost of the scheme was estimated to be sixteen and a half million dollars for the Dominion Coal Company.

Forecasts had indicated that there would be a continuing market for at least seven and a half million tons of output from the Corporation's collieries and it was planned to increase outputs to take advantage of such markets. Five Joy loading units with the necessary cutting and boring machines and conveying equipment were purchased



for No. 20 Colliery to work those areas under comparatively shallow cover where total extraction could not be carried out. A diesel locomotive, especially designed for use in these collieries, was obtained and three-ton mine cars made of aluminum were designed and put on test in No. 18 Colliery. About the same time a Joy loading unit with auxiliary equipment was obtained for Princess Colliery and two such units were also obtained for the McBean Colliery to speed up development. The cost of the equipment installed was -- at Dominion Coal Company -- \$1,156,006.42; at Old Sydney Collieries -- \$120,987.56; at Acadia Coal -- \$133,380.11.

In 1948, there being no suitable longwall cutter-loader machine available, the engineers of the Company started to design such a machine, which would be suitable for the conditions under which it had to work. When the design was completed a machine was built and put into operation. With the knowledge gained from the operation of the machine, its design was modified to the present form of the Dosco Continuous Miner.

At the same time the Maritime Coal Production Assistance Act came into force. The mechanization scheme was somewhat modified and called for an expenditure of thirteen million dollars. A loan of seven and a half million dollars, bearing a 3-1/2% interest charge, was made available by the Federal Government to assist in financing the mechanization program. The remainder of the amount needed was



to be provided from the Company's own resources. The Government loan was to be secured by chattel mortgage on equipment purchased.

Dosco mining machines totalling thirty-nine have been purchased for use in the Sydney coal field and conveyors suitable for handling the surge loading from the machine have been developed and provided. Three-ton capacity aluminum mine cars to a total of 1,555 units have been purchased. Additional Joy loading units and one Joy continuous miner for face development have all been purchased and put into service. Stone loading machines have been acquired. A washplant to handle the product of the Sydney mines collieries has been designed and built and a tunnel, 3,500 feet long, has been driven from this washplant to Princess Colliery pit bottom to permit the easy handling of the coal from the colliery directly into the washplant and at the same time permit an increased output to be obtained from that colliery. The tunnel in the Glace Bay area was driven for a distance of 1,600 feet and then it became apparent that the anticipated market of seven and a half million tons annually was not going to materialize in the foreseeable future. The tunnel was, therefore, stopped, to be proceeded with when output requirements warranted the expenditure necessary to complete the work.

Expenditures made by the Dominion Coal Company for mechanization, excluding the expenditures made prior to the mechanization program being put into effect, totalled \$10,481,624.61 to







July 31st, 1959. Of this, \$6,986,749.74 had been obtained from the Government loan, \$1,278,279.00 of which has been repaid. The repayment of the remainder has been postponed with installment payments to again commence in 1963, and because of this the interest rate has been increased to 4%. Interest paid to the Federal Treasury for this loan has amounted to \$1,161,742.00 to July 31st, 1959.

At Princess Colliery mechanization has cost \$5,062,826.31 to July 31st, 1959, all of which has been paid for by Dominion Steel and Coal Corporation, Limited.

In order to avoid mass layoffs and to train the employees in the handling of the new equipment, mechanization was not proceeded with at too rapid a rate. As a result, it has been successful in most cases. The Joy loading units have not produced the tonnage per shift that similar equipment has done in many United States collieries, partially because of the shorter working time due to the long travel time required (\*) by the men to get from the surface to the working face in the Sydney coal field and, partially because of the more severe physical conditions. The Dosco Miner has, however, proven to be the most productive longwall cutter-loader known. Incidentally, twenty-one of these machines have been sold to other countries for use in their mines. The conveyors installed have worked very successfully, including the cable belt conveyor in the Princess tunnel. This belt unit is the only one of its type installed on this continent. The implementation of the



mechanization scheme has improved productivity (\*) and has permitted costs to be held at a lower level than would have been possible otherwise. Several of the operating collieries would have been closed before this time had they not been mechanized. For average output per man day in U.S. bituminous underground mines, see appendix (\*\*)

To simplify roof support in places where mechanical loading was being carried on a system of roof bolting was started and at this time over 130 miles of roadway have been supported in this manner. It was decided to use yielding steel props on the longwall faces instead of the hardwood cribs and dry stone walls which had been used for support for many years. It was thought, however, that it would be better not to change the system of roof support on the longwall faces until the men were thoroughly familiar with the changed method of coal getting and conveying on the faces and, therefore, steel props were not introduced until two years ago. At the present time seven faces are so equipped and the other faces will be supplied with this type of support as finances permit. The steel props are giving excellent results.

The construction and maintenance of roadways with an advancing longwall system is a heavy charge against the operations. Because no machinery was available which could rapidly develop roadways for a retreating operation and so avoid the construction and maintenance costs, the Company had been forced into advancing

(\*) Appendix No. 6

(\*\*) Appendix No. 7



longwall methods. Within recent years machines capable of rapid drivage have been perfected. One such machine has been purchased and a unit of two experimental longwall faces have been developed for a retreating system. These faces are now in operation and from the results so far obtained it is indicated that the system will be successful. However, further work must be done before its complete success is assured.

The greatest difficulty with the system from an operating point of view is the danger of gases accumulating at the upper end of the top face of the series and adequate provision must be made to be certain that ventilation currents will carry away gases which might tend to gather. If this system can be successfully worked it will mean a saving in operating costs.

Because of the coal height or sharply varying gradients it has not been possible to mechanize face operations in all collieries. Work has been carried on in designing a modified Dosco Miner for work in low seams, but the design is not yet complete in all its details. The work on this design is being continued.

#### COAL PREPARATION:

In 1945 the output from the collieries in the Province was prepared for market by removing any undesirable material from the Plus 1-1/4" sizes by hand. The Minus 1-1/4" sizes were not prepared at all. Such preparation appeared to be sufficient when the coal was



loaded by hand and the men took reasonable care to load only clean coal. This condition has completely changed with the introduction of mechanization in the coal loading operation.

When the McBean Colliery was opened in 1947 it was proposed to load the coal mechanically. A preparation plant with a capacity of 240 tons per hour was erected at Stellarton in 1947 to wash the output of the Acadia mines. This plant washes that portion of the output which is above 3/16" in size, the Minus 3/16" coal is not washed. The plant turns out an excellent product in the sizes required for the market. The sized coal is dewatered after washing by dewatering screens and is oiled to make it dust-free if the customer so desires. At the present time the plant is treating only 900 tons per day, which is the output of the McBean mine.

The mechanization program of the Dominion Coal Company called for the construction of a preparation plant which could handle an input of 22,000 tons in 16 hours. It was decided, however, that before such a plant should be built, a plant to prepare the output from the Sydney mines collieries should be constructed as a pilot plant to determine the most suitable types of equipment which should be incorporated in the much larger Dominion Coal Company plant. A preparation plant was erected in Sydney Mines in 1953. This plant has a capacity of 375 tons per hour and washes the Plus 1/4" fraction of the output of the Sydney Mines Collieries. As at Acadia, the





Minus 1/4" product is not prepared. This plant does an excellent job in preparing the sizes it washes and its operation has provided the data required to determine the equipment which should be used in the proposed Dominion plant.

Prices of equipment and of construction work rose sharply after the mechanization program was decided on and estimates of cost of implementing the program made up. As a result of this, finances have not been available to erect the proposed Dominion plant, as such a plant would cost, at this time, about five and three-quarter million dollars. The plans submitted to the Coal Board were turned down as the Board felt the size of the plant was too large. Plans for a somewhat smaller plant are presently being made. It is essential that much of the Dominion output should be prepared by washing in order to provide the market with the coal it demands. In the meantime, and for some years past, as large a tonnage of Dominion coal as the plant at Sydney Mines could handle has been washed at Sydney, in order to meet as much of market requirements as possible.

The availability of a double screened coal of excellent quality has increased demands for such coal, particularly in the domestic market. This size of coal is taken largely from the Minus 1-1/4" fraction and its removal results in the making of large tonnages of Minus 1/4" coal for which there is not always a market available. As a result nearly 400,000 tons of this fine coal are stockpiled at various places. In stockpiling, even when firmly packed, coal of that



size has a tendency to absorb moisture and unless it is dried before shipment it is difficult to handle in plants equipped with pulverized fuel boilers, which might use it. The disposal of the Minus 1/4" product has become of extreme importance as the output of the collieries to a very considerable extent depends on its successful disposal.

With the soft pavements in the Sydney coal field it is not a simple matter to keep coal clean when it is loaded mechanically and it is highly desirable that the Minus 1/4" product should be improved by washing followed by the drying of the cleaned product, in order to make it most acceptable to the available markets. This phase of coal preparation is presently under study by the Company engineers, however, unfortunately, the necessary funds for the capital expenditures required to build the plants are not available from the Company's own resources. The construction of these plants is, however, necessary if even present day outputs are to be maintained.

Consideration has been given to briquetting some of the fines but the tonnage which could be absorbed by such means is comparatively small. Every effort is being made to reduce the percentage of fines made in production.

To improve the size consist of the output from the Dosco Miner a wedge attachment has been designed for use with it. This attachment has increased the percentage of Plus 1-1/4" coal by 10% and reduced the Minus 1/4" fines in the output by 15%. The wedge



attachment is being fitted to the machines as rapidly as possible, where conditions are suitable for its use. At this time nine of the machines in service have been so equipped and by the end of April, all machines should be equipped with wedges where there is a height of seam sufficient to permit its use.

#### MARKET TRENDS:

In 1945, with hand-loading, the output from the collieries was about 50% Plus 1-1/4" coal, with the remainder being 1-1/4" Slack. This division of the output met market requirements. A shrinking demand for large size coal took place gradually, with a sharp decrease as the dieselization of the eastern Railways took place. This dieselization has resulted in the loss of markets of 1-1/2 million tons of large size coal. At the same time markets for Slack coal increased so that as mechanization proceeded and additional Slack was made by the machines used, the output of the collieries was kept quite well in balance with market demands. At times, however, large size coal had to be crushed to meet demands for Slack coal. With recent losses of large Slack coal markets it has been necessary to seek markets elsewhere. Unfortunately, many of the markets available require double screened coal of Pea or Nut size. To supply these markets large tonnages of Minus 1/4" coal have had to be made and it has not been possible to dispose of all of this fraction of the output, so that at the present time there is a large tonnage of it in stockpile.



### IMPORTANCE OF THE INDUSTRY TO PROVINCE'S ECONOMY:

At the present time coal is being mined in four counties of the Province. Most of the communities in these areas are dependent entirely on coal mining, while many neighbouring centres are dependent upon it to a very large extent. The men directly engaged in the industry number 9,856 and it is estimated that well over 100,000 Nova Scotians are dependent on coal mining for their livelihood and as a matter of fact, there are few citizens in the Province who are not dependent upon it to some extent.

The coal mining operations of the Corporation within the Province of Nova Scotia employ 9,105 people at this time. In 1959 these operations disbursed \$59,597,599.00. Of that total \$29,162,669 was spent for wages and salaries, \$1,307,440 for pensions, \$246,126 for Unemployment Insurance, \$1,618,856 for Compensation, \$7,638,320 for materials, \$1,676,016 for power and \$913,150 for taxes to the various Governments. These expenditures were below normal due to the fact that there was an average of forty idle days in the colliery operations during that year.

In the larger mining centres churches, schools and other public buildings have been erected and the usual public services established. These towns and communities are one-industry towns and the cessation of mining operations will mean complete loss of all that has been established for public service over many years.





COLLIERY CLOSURES:

It was the policy of the Companies to keep developed mines in operation as long as possible. In the past, provided the operations as a whole were profitable, unprofitable mines were kept producing although they should have been closed from a strictly business point of view. This policy was established and carried on for the benefit of the employees, the Companies realizing that work was not available nearby for any considerable number of men displaced by colliery closures. Difficulties confronting the Industry for the past several years created financial problems and in 1955 the Company announced that it could no longer continue this policy.

The greatest difficulty confronting the Companies from an operating viewpoint at the present time is largely one of high operating costs. These costs can be materially reduced if every mine which continues in operation is worked on a full time basis and at peak capacity. The nine collieries now operating can be quickly developed to produce an annual output of 6,475,000 tons on a full time basis (\*). The present capacity of the collieries should permit an output of 5,500,000 tons. An estimate of sales for 1960 indicates that 4,300,000 tons of coal will be sold. This means that idle time of approximately 60 days will be experienced by most of the collieries this year. The cost of maintaining the mines over such an extended period of idleness will be very high and will result in severe financial

(\*) Appendix No. 8



losses. Actually, if the Industry is to be saved from bankruptcy, some action must be taken to bring production more closely in line with disposals. After the fullest consideration, the decision has been forced on the operators to close those collieries which are high in cost and in which little can be done to bring about improvement. This is the only solution to the problem which will bring about stability for the Industry as a whole.

The first colliery to be closed will be Florence Colliery, located in the Village of Florence. This is a high cost colliery in which no substantial cost reduction can be anticipated, and because of the physical conditions within it, little can be done to mechanize the coal loading operations. The undulations in pitch encountered in the workings coupled with the stone intrusions which appear without warning in the seam make it impossible to use any known cutting-loading machinery which otherwise might be used to reduce production costs. This mine has a payroll force of 587 men and 54 men now employed in auxiliary departments would be displaced by its closure.

The second mine to be closed will be No. 16 Colliery at New Waterford. This also is a high cost mine. The coal loading operation in the colliery has not been mechanized because the seam is too low to permit the Dosco Miner to be utilized in its workings. In many places in the working faces falling stone of varying thickness follows quickly the removal of the coal and it is difficult to keep this



stone from mixing with it. Indeed, there is so much intermingling of stone and coal that a Nut product 1-1/4" x 3" in size is taken from the output and must be washed before it can be marketed. In addition to the falling stone, stone bands appear in the seam in many places which makes the mechanical mining of the coal very difficult and even if this could be successfully done it would necessitate the washing of the entire output. There are on the payroll of the colliery some 1,116 men..

When it becomes necessary to close a third colliery that mine will be Dominion No. 4, located in Glace Bay. It will be closed because the coal it produces is higher in ash and sulphur than the coal from any of the other mines and it is, therefore, the most difficult to dispose of in many markets. No. 4 Colliery has on its payroll some 797 employees. The closure of the two Dominion Coal Company collieries would cause the curtailment of auxiliary department forces by 60 men. Beyond this it may be necessary to increase by mechanical means the productivity of some mines and close others in order to control mounting mining costs.

The coal presently tributary to Nos. 4 and 16 Collieries could be recovered at a later date through cross measure drifts driven from Nos. 20 and 12 Collieries respectively, if it should be desired to recover it at a future date. The coal remaining, which is tributary to Florence Colliery, some 1-1/2 million tons, will probably be lost,





although some of it might be recovered from the Princess Colliery operation.

Some of the men displaced by closures will get employment in the remaining collieries. This number will not quickly exceed 200. Some will get employment through the pensioning of employees in other collieries, who are eligible for pensions or will be pensioned themselves. These will number approximately 240. Some of the men with more than five years service with the Company will get employment by displacing men in that same district whose length of service with the Company does not extend beyond Jan. 1, 1955. This will not increase employment but it will take care of approximately 980 men with comparatively lengthy service.

Men hired subsequent to January 1st, 1955, are classed as temporary employees who may be displaced by employees having service extending to an earlier date, should those older employees lose their employment through mine closure or force reduction brought about by mechanization. This arrangement is effective within each of the several mining districts but is not effective outside that district; that is, a man employed in a New Waterford colliery may, if he loses his employment under the conditions outlined, displace a temporary employee in another New Waterford colliery but not in a Glace Bay one. This arrangement is an agreement made between the United Mine Workers and the Company when mechanization was first started.



Unfortunately, the financial position of the Company does not make it possible to pension employees who, because of age or length of service, do not qualify for a pension in accordance with pension regulations. The Companies, will, however, cooperate and do everything possible to obtain employment for displaced employees in other localities.

The problem of being unable to dispose of tonnages which can be produced is a most difficult one, and the aforementioned solution is the only apparent one that offers any hope of the Industry remaining in existence at all.

It is now obvious that if the Industry is to be maintained at the highest level, the pits operating must work on a full-time basis and must produce at maximum capacity. Only complete mechanization, by the utilization of the best techniques and by obtaining maximum production from operating collieries can hold costs at reasonable levels.

The closure of Florence Colliery would reduce the Industry's producing capacity by 1,400 tons daily, the closure of No. 16 by 2,770 tons daily and of No. 4 by 2,400 tons daily.

Should additional outputs over the capacity of the remaining collieries be required at a future date the Dominion Coal Company can open up a new colliery in high grade coal near Lingan, where a frontage of some three miles has been left for the proposed colliery's operation. The colliery would be developed when it is required and



would eventually have a capacity from the Harbour and Phalen seams of 6,000 tons daily.

#### WAGES PAID BY THE INDUSTRY:

In 1945 the base labour rate was \$5.67 and since many of the employees were Contract workers the average daily wage of all employees of the collieries amounted to \$6.94. Daily wages were increased by \$1.40 in 1947, by 40¢ in 1948 and by 50¢ in 1949. In 1950, in spite of a firm two-year Contract with no increase in wages, the Companies paid to their employees a bonus of \$100 each as the operations had been profitable and because many industries across the country had received substantial wage increases in that year. Again, in spite of the firm Contract, the Companies increased wages by 60¢ per day in 1951. In 1952 there was a further increase in wages of \$1.00 per day. Wages were not increased again until 1957 when all rates were up-graded by \$1.00 per day and since the large majority of the men were by that time datal paid workers a production incentive of \$1.00 per day was granted to men employed in the various sections of the operations who produced pre-determined outputs in any week. In 1958 a further increase of 80¢ per day was given. This brought the base wage rate to \$11.54 plus \$1.00 if the production targets set were obtained. The average daily wage in 1959 paid by the Dominion Coal Company was \$13.75. It should be noted that the Dominion Coal Company has not been able to pay any dividends to its preferred share-



holders since 1952, and no dividends on the common shares have been paid for over forty years.

It is unfortunate that most of the colliery employees do not take advantage of all the working time available to them. The loss of available working shifts for all reasons in the collieries during 1959 amounted to 12.73%. The loss of working time which was avoidable amounted to more than half that figure.

The Companies have done everything possible to stop this loss of working time by means of verbal and written warnings, and by the suspension or discharge of those who habitually over a long period deliverately lost time. In many cases of discharge the Board of Adjustment ruled that the man discharged should be reinstated in the Companies' service after a period of suspension. (\*)

#### SUBVENTIONS:

The marketing of coal produced in Nova Scotia is assisted by the Federal Government through freight subventions to obtain markets in the Province of Quebec west of Levis and in the Province of Ontario. This was a policy introduced by the Federal Government in 1928 and was adopted as a means of assisting the Industry rather than increasing the tariff. Basically, the amount of assistance given is sufficient to meet the laid-down cost of American coal at the point of consumption in Quebec and Ontario up to certain maximum amounts. At the present time in Ontario the maximum subvention may amount





to as much as \$7.75 per ton. The policy of granting subventions has been of great importance to the Nova Scotia Coal Industry. Without subvention assistance, markets for Nova Scotian coal would be largely confined to the Atlantic Provinces. Subventions will be dealt with in greater detail later in the submission.



PART II  
TRANSPORTATION  
INTRODUCTORY

The basic submission of the Dominion Steel and Coal Corporation, Limited to the Royal Commission on the Coal Industry in Canada (Carroll Commission) with reference to the effect of transportation costs on the sale of Nova Scotia coal, had this to say:

".....to a St. Lawrence port of discharge, Quebec City, Three Rivers and Montreal, it has been possible to balance the delivered cost of Nova Scotia coal by a cost of freighting much less than the cost of rail and water transportation of coal from United States mines, plus the protective duty on U.S. coal. This margin of advantage to Nova Scotia coal has always been a very small one, and during two war periods, 1914-1920, and the unknown duration of the war that began in 1939, this water-borne traffic has become impracticable because of shortage of ships. Leaving these war-time disturbances on one side, and looking forward to return of the lower water-freighting costs on which the Nova Scotia-St. Lawrence coal movement is founded, it may be expected that in the future as in the past the effective limit of Nova Scotia coal against imported United States coal will end at the St. Lawrence port of discharge from steamer."  
(Exhibit No. 1 at Pg. 57 - our underlining)

Also in the Corporation's Brief on Markets to the same Commission, the following statement was made:

"It is obvious that without tariff protection and other assistance, little if any, Nova Scotia coal could have penetrated the St. Lawrence market in 1939. Prices of American coal



were very unstable in this period and it was virtually impossible to determine exactly what had to be met, so many and varied were the fluctuations. "

In appendix "E" supplementing the Brief, it was shown that to Montreal, for example, the price of Dominion coal in 1939 was \$5.25 per short ton and, in 1944, \$7.92 vis-a-vis U.S. coal via Lake Ontario and Lake Erie ports in 1939 - \$5.28, and in 1944 - \$7.42 (the latter were inclusive of dock charges). If one discounted the abnormal war year and considered only the last pre-war year, the competitive situation at St. Lawrence ports, even then, was quite marginal.

While the matter of subventions is discussed in another section, it is of significance to note that subventions for the movement of coal by water from Nova Scotian ports to points in the Province of Quebec were first established by Order-in-Council No. P.C. 3589 dated September 12, 1947 and, since that time, it has become the policy to provide subventions for the movement of coal directly by water.

The Order-in-Council first initiating the assistance stated, among other things, that "the cost of water transportation from Nova Scotia ports to points in the Province of Quebec is such that Nova Scotia coal cannot successfully compete with United States imported coal currently being used in large quantities."

Since the last Royal Commission on Coal, transportation costs have reflected the post-war inflationary trend with resultant





increases in both the rail and water factors from U.S. and Canadian origins. In both countries the coal rail-rates were singled out for lesser increases than were authorized generally.

The principal U.S. coal origins, for assessing the competitive relationship with Nova Scotia coal, are the Clearfield, Pa. and Westmorland, W.Va. districts. (\*) However, United States bituminous coal, destined to Eastern Canada, originates at other mining districts in the States of Pennsylvania and West Virginia in addition to Virginia, Ohio, Kentucky, Michigan, Illinois and Indiana.

Most of the coal traffic to Canada moves via lake ports under a special rate structure known as "lake-cargo coal rates". The haul to the lake ports is regarded by the railways as being part of a through movement and the rates thereon are lower than rates on coal not destined beyond the ports.

The combination of the lake-cargo rail rates and the bulker-type water rates from the Clearfield and Westmorland districts via Sodus, N.Y. to Montreal, Three Rivers and Quebec, were as follows in 1959:

From:	Rates in cents per 2000 lbs.		
	To: <u>Montreal</u>	<u>Three Rivers</u>	<u>Quebec</u>
Clearfield District			
Rail factor to Sodus,			
N.Y. plus dumping,			
less exchange @ 4.9%	315	315	315
Water factor bulker-			
type vessel plus seaway			
toll	<u>215</u>	<u>230</u>	<u>255</u>
	<u>530</u>	<u>545</u>	<u>570</u>

(\*) Appendices 25, 26 and 27



From:	Rates in cents per 2000 lbs.		
	To: <u>Montreal</u>	<u>Three Rivers</u>	<u>Quebec</u>
Westmorland District Rail factor to Sodus, N.Y. plus dumping, less exchange @ 4.9%	339	339	339
Water factor bulker - type vessel plus seaway toll	<u>215</u> <u>554</u>	<u>230</u> <u>569</u>	<u>255</u> <u>594</u> (*)

During the last year the Eastern U.S. railroads reduced their lake cargo rates on coal destined to Canada by seven cents per ton. Moreover, a reduction of 30¢ per ton was made by Western rail lines to Lake Michigan ports on coal destined to Canada. This was followed by reductions of 15¢ per ton from Eastern U.S. mines to Lake Erie ports on coal destined to ports between Amherstburg and Sarnia, Ontario, and 30¢ per ton to destinations north of Sarnia.

In relation to the existing rates, the cost of freighting coal from the Clearfield District via Lake Ontario ports to alongside dock, Montreal in 1939 (exclusive of any exchange) amounted to \$2.418 per ton of 2000 lbs. or more than one half the 1959 costs.

It was established before the Carroll Commission that, historically, the Quebec market constituted an important outlet for Nova Scotia coal. Even despite distance from the principal markets of Canada, the Nova Scotia coal industry, perforce of the relatively cheaper cost of transportation by water to St. Lawrence River ports, was able, until more recent years, to compete marginally with U.S.

(\*) See also Appendices No. 23 and No. 24



Coal along the St. Lawrence, assisted only by a small duty. In 1939, for example, the cost of moving coal from the Glace Bay Mines to alongside dock at Montreal amounted to approximately 96¢ per short ton.

In the study "The Nova Scotia Coal Industry" prepared by Urwick Currie Limited for the Gordon Commission, reference was made to the cost of freighting coal by water from Sydney to Montreal as follows: "The costs of hauling coal aboard these vessels varied to a remarkable degree, ranging on the trip to Montreal from \$1.00 per ton to \$3.50 per ton, depending on the charter price, the ship's capacity, its speed and the turn-around time. The average water freight cost to Montreal during 1955 was \$1.90 per ton, but because of increasing chartered boat rates, the 1956 cost is expected to be much higher and will likely exceed \$2.40 per ton. Certain vessels however, including the three DOSCO-owned ships, carried a substantial portion of the total tonnage hauled at a significantly lower cost than this average. For example, of all tonnage moved to Montreal in 1955, 40% was carried at an average cost of \$1.40, and over a third of this was carried by the single DOSCO-owned vessel, the LOUISBURG." (\*)

If one were to adopt the Gordon Commission study's average cost of freighting coal by water, Sydney to Montreal, then, in 1959, the cost of freighting coal from the Glace Bay Mines to alongside dock Montreal, would amount to about \$2.96

(\*) Pg. 13 The Nova Scotia Coal Industry - Study prepared for the Royal Commission on Canada's Economic Prospects.



short ton or over three times the cost in 1939. In contrast, the cost of freighting rail and lake from the U.S. Clearfield District to alongside dock at Montreal increased by about 2.2 times over the same period.

### ROUTING

#### By Rail:

With the exception of Newfoundland, practically all the coal from the Sydney area to destinations in the Atlantic Provinces, in 1959, moved by rail. The volume that year amounted to 654,405 tons. In contrast, the tonnage shipped in 1946 was 991,592 which is the peak since that time.

To Central Canada destinations the rail movement amounted to 480,198 tons compared with 110,393 in 1946, and with only 25,780 tons in 1947. The peak year for the period was in 1956, when the tonnage reached 786,675. (\*)

From the McBean operation at Thorburn, N.S., and the Stellarton Washplant the movement is now mostly all rail, except for the quantities distributed locally from the chutes and a relatively small volume to Pictou for ship bunkers and for furtherance. In 1959 the total all rail movement from the Stellarton Washplant amounted to 117,652 tons, of which 27,952 tons moved to Central Canada.





By Rail-Water:

In 1959 the coal tonnage to St. Lawrence River ports amounted to 1,684,760 tons. This volume represents the fourth largest since 1945, when only 82,517 tons were carried by water to the Quebec market. The 1959 breakdown of tonnages to the St. Lawrence River ports is as follows:

Year	Destination	Owned Vessels	Time Charter Vessels	Trip Charter Vessels	No. of Trips	Total Net Tons
1959	Montreal	512,990	804,663	152,677	19	1,470,300
	Quebec	13,372	116,319	21,710	5	156,401
	Three Rivers	10,278	24,094	4,377	1	38,749
	Chicoutimi	-	16,033	-	-	16,033
	Sorel	-	3,277	-	-	3,277 (*)

As a matter of interest and for comparison, in 1939 the total water-borne tonnage to St. Lawrence River ports was 3,267,208. In that year the coal fleet consisted of 17 vessels, three of which were company-owned and the balance were on long-term charter, that ranged from 3 to 12 seasons. The 1959 coal fleet consisted of three company-owned and seven time-chartered vessels. In addition, there were twenty-five voyages on a trip-charter basis.

Unlike the pre-war period, the time-chartered vessels were only for one season, owners so far being reluctant to enter into long-term charters because of the low ebb in the world-charter market, except at rates relatively higher than the current indications from time to time would have justified.

(\*) Appendices Nos. 16, 17 and 18



The time-chartered vessels in the Company's coastal trading have been of U.K. registry. This has enabled the Company to obtain the benefits stemming from lower operational costs of those vessels vis-a-vis ships of Canadian registry. In this connection the Royal Commission on Coasting Trade in its report dated December 9, 1957, in discussing a proposal to restrict the Canadian coasting trade to vessels registered in Canada, said as follows:

"Applied to the eastern coasts and the Gulf of St. Lawrence, the restriction could not fail to cause a substantial increase in transportation costs for a large volume of commodities carried in the coasting trade, with similar effects in some international services. In no case would there be a commensurate benefit in quality of service or in other directions, and in some cases the service might be expected to deteriorate."

While benefits accrue from being in a position to charter vessels of Commonwealth registry, there are the vicissitudes of the open market which make vessels of such registry sensitive to the interplay of world events. The coastal waters also attract, generally, higher charter rates because of British North America marine insurance warranty exceptions, the cost of delivery and redelivery on this side of the Atlantic, special coastal pay for U.K. crews in Canadian waters and a limited season of about seven and a half months.

The three company-owned vessels, the ARTHUR CROSS, WABANA and LOUISBURG, were purchased in 1946 from the Dominion



Government and were reconverted into single deckers for the carriage of bulk cargoes and were registered in June of that year. With the coming into service, in 1958, of the long-term chartered vessel m.v. CHARLTON MIRA for the Ore trade, two of those vessels were released to the Coal trade entirely and one, on a part-time basis. Because of their age, these three ships are reaching the end of their course and will be due for their next quadrennial survey in 1962. In relation to time-chartered vessels of U.K. registry, the company-owned vessels have been becoming more costly, thus reflecting in increasing cost of freighting in the movement of coal.

In 1959 coal to the Newfoundland market was shipped partly by schooner and partly by steamer. The total movement was 183,644 tons, of which 54,120 tons were by trip-charter arranged by Dominion Shipping.

By Rail-Water for Transhipment:

Out of the total of 1,684,760 tons that were carried by water to St. Lawrence River ports there were 369,844 tons (\*) transhipped at Montreal by water for Great Lakes ports, leaving a balance of 967,997 tons to be distributed locally or transhipped to inland points, the latter mostly by rail.

(\*) Appendices Nos. 20, 21 & 22





## THE INCIDENCE OF TRANSPORTATION CHANGES

### The Rail-Rate Structure and Postwar Increases:

Within and from the Maritimes: The rates in this territory largely reflect the pervasive influence of water competition. Generally, however, the rates to and from points in the Maritimes are predicated on what is known as the "Maritime Mines Scale" which is roughly 20% below the normal scale. There are many exceptions to the Maritime Mines Scale, and while the bases for some of these rates are vague or hidden in old records, competition has generally been basic in the promulgation of most.

Indicative of the competitive influences are the following rates on Slack coal compared with the rates on other types of bituminous coal:

Rates in cents per ton of 2000 lbs.				
To:	<u>From Sydney, N.S. ex S. &amp; L. Rly.</u>		<u>From Sydney Mines, N.S.</u>	
	<u>Slack Competitive</u>	<u>Regular</u>	<u>Slack Competitive</u>	<u>Regular</u>
Halifax, N.S.	224	248	235-1/2	267-1/2
Bathurst, N.B.	241-1/2	241-1/2* 296	247	247* 311-1/2
Saint John, N.B.	281	286	296-1/2	301-1/2

\*Effective January 25, 1960



The Maritime Mines Scale as reduced under the Maritime Freight Rates Act, has been applied as far west as Quebec and Montreal with intermediate points graded to reflect generally this basis. (\*) There appears to be no standard basis in connection with Maritime coal to stations west of Montreal. The competition of United States coal has in many cases influenced variations in the rates.

Through rates from the mines to railway stations beyond Sydney have been predicated on combinations; that is to say, the rates on S. & L. Railway have been combined with those of the C.N.R. to obtain the total rates to destinations on that Railway. By the method prescribed by the Board of Transportation Commissioners in holding down increases in rail rates on coal, the same authorized amounts were applicable whether the haul was over one or more lines. For example, in the last increase authorized by the Board effective on December 1, 1958 the flat increase was 22¢ per ton and by the application of the Maritime Freight Rates Act this resulted in an increase of 17-1/2¢ in the M.F.R.A. territory and 18¢ on coal moving to stations west of Levis and Diamond, Quebec. (\*\*) The division of that increase accruing to the S. & L. Railway amounted to 2-3/4¢.

Since 1946 the rate on slack from Sydney Mines to Halifax, N.S. has been increased 47% compared with bituminous coal, in general, by 67%. Whereas, from Sydney Mines to Montreal the increase was 14% in the same period. The lower percentage increase to Central Canada

(\*) Appendices Nos. 29 & 30. (\*\*) Appendix No. 31



reflects the greater mitigating effects of the flat rate increase method on long hauls and, also, the increased percentage reduction under the Maritime Freight Rates Act established July 1, 1957. Even despite the "hold-downs" in increases and the establishment of some competitive rail rate reductions, potential outlets have been lost to other sources in the Maritime territory. Increased freight rates, as a factor in the laid down costs, have contributed to the coal traffic erosion.

It should be pointed out that the railways per se, in seeking increases in rates in the postwar period singled out coal for exceptional treatment principally by flat amounts rather than straight horizontal increases and the Board of Transport Commissioners adopted the principle and, in its judgments in the so-called "21% rate case" dated March 30, 1948, it justified its action in these words:

"Coal and coke are commodities of most wide and general use and of such vital importance to industry and to the people of Canada as a whole, that I am impressed with the desirability of limiting, as far as reasonably practicable, any additional burden in the way of advance of freight rates on this class of commodity, and of spreading the advance equally over the whole of such traffic, regardless of the length of haul. The applicant railways have, by their application, asked for an increase on a sliding scale based on the amount of the present freight rates per ton. I would instead grant a flat increase of 25¢ per ton on coal and coke moving in Eastern and Western Canada respectively." (\*)

(\*) J.O.R. - Volume XXVIII No. 1 @ pp 66 & 67.



Within Central Canada: The so-called "Eastern Rate Case" (\*) constitutes the basis for the special commodity rates on coal in Quebec and Ontario .

The structure that had existed previously had revealed to the Board anomalies which dictated the requirement of a more symmetrical blocking and a more consistent inter-relation of rates. The influence of competition in the area has been reflected in a continual change in the coal rates and the opening of the Welland ship canal facilitated a greater water movement with resultant decreases in the all-rail rates via the Niagara and other gateways. To mesh with the water movement, the railways published the so-called "ex-water rates" applicable on coal received by water at coal docks along the St. Lawrence and the Great Lakes waterway for the rail movement inland. These rates are, in the majority of cases, depressed below the mileage rates and there appears to be no set basis since the individual rates were influenced by the competitive conditions and circumstances which obtained at the time.

From the United States: The all-rail coal rates applicable from the mining districts in the United States to Canadian destinations consist of:

- a) Specific commodity rates published by Canadian railways on bituminous coal ex United States railways at border gateways to destinations in Eastern Canada. These rates are known as "proportionals" and are combined with rates of U.S. carriers to the interchange border points.

(\*) 22 Canadian Railway Cases Pg. 45.





- b) Joint-through international rates via certain gateways, reflecting two-factor combinations.

Whether the rates are combinations or joint-through factors, they are of significance in relation to the coal movement from Nova Scotia in that they constitute one of the items in striking at the laid-down cost of U.S. coal at various destinations in Eastern Canada.

Proposed Equalization of Coal Rates West of the Maritime Territory.

The coal rate structure west of Diamond Junction and Levis, Quebec, are currently under study by the Board of Transport Commissioners in connection with the General Freight-Rate Investigation directed by Order-in-Council P.C. 1487, dated April 7, 1948 (Equalization Case) and pursuant to Section 366 of the Railway Act (National Freight-Rates Policy). While the all-rail rates from the Maritimes to destinations within and outside the territory are excluded from this investigation, yet, the ex-water rates on coal from St. Lawrence River ports to inland points may possibly be involved. (\*)

The question arises: What effects would the equalization of coal rates likely have in respect of movements of coal ex-water on the laid-down cost of Nova Scotia coal to the various destinations? The answer, of course, is contingent upon the basis that is finally prescribed by the Board of Transport Commissioners and what rates are excluded. This Company's studies indicate, however, that if the "ex-water" rates are subject to equalization then,



unless a scale is established that takes cognizance of the relatively short distances in the ex-water movement of coal and the competitive circumstances enveloping the traffic - qua - the establishment of agreed charges from Three Rivers to Shawinigan and Grand' Mere, for example, then the equalization of rates would, on balance, result in increased costs in the movement of coal which would either require increased subvention payments or, conceivably, result in market restrictions.

St. Lawrence Seaway:

In the supplementary report of (\*) the Gordon Commission of the Nova Scotia Coal Industry, the following observation was made:

"The St. Lawrence Seaway is expected to be in operation in 1959, and whether it will have an effect on the market price of coal will depend on whether the ore carriers will carry U.S. coal to eastern Ontario and Quebec on their return down river. If they do this, then it has been estimated that the price of competitive U.S. coal will be lowered by at least \$1 per ton and the subvention cost under the conditions applying in 1960 would increase by some two million dollars a year. (underlining ours)

It is not expected, however, that the large ore carriers will carry any appreciable tonnage of coal in the early years of the Seaway, because of lack of facilities for unloading large ships and because the expected demand will outweigh the benefits of earning extra revenue by carrying coal. Accordingly no major provision has been made in the sales estimate for losses from this cause. After 1960, however, the cost of holding the Quebec markets may increase." (underlining ours)



In 1959 there was at least one instance of lower transportation costs on coal from Great Lakes ports to destinations along the St. Lawrence, which does give some weight to the prognostication that "after 1960 - sic - the cost of holding the Quebec markets may increase."

In this connection, a self-unloader vessel transported U.S. coal last season from Lake Ontario to the Quebec City area at a rate of \$2.00 per short ton, including the seaway toll of 40 cents per ton compared with the 1959 bulker rate of \$2.55 inclusive of seaway tolls. The over-all reduction, allowing for discharging costs, amounted to approximately \$1.10 per ton. In this particular instance the Coal Board met the situation.

Until the completion of the seaway, only vessels capable of lifting approximately 2500 to 3000 short tons of coal were possible from lake ports vis-a-vis Ocean-type vessels from Sydney to Montreal carrying up to about 10,000 tons.

Costs of freighting by the large colliers from Sydney to St. Lawrence ports have generally been relatively competitive with the small canalers for the shorter hauls from the lake ports. At times the costs per ocean vessel have been either somewhat lower or higher than the current lake to St. Lawrence rates depending upon world wide charter market conditions.

At the present time, coal depots along the St. Lawrence are geared primarily to handle bulk-type vessels.





A substantial volume of coal from U.S. origins to Canadian Great Lakes ports is handled by self-unloader vessels and a large number of receiving docks with shallow drafts in that area are suitable only for that type of vessel and to such ports a direct water haul by the large ocean vessels from Sydney are either physically or economically impossible. As a consequence, a large part of the Nova Scotia coal carried to Great Lakes ports in 1959 had to be transhipped at Montreal to self-unloading lake vessels.

While there was no direct shipment of coal last season from Sydney to lake ports, this will be possible as ports are dredged to accommodate larger draft vessels with resultant reduced transport costs.

To facilitate a greater participation in the future sighted coal requirements of the Great Lakes area, large self-unloader vessels would have to be used to carry coal from Sydney to the Great Lakes. It would appear that, in the long run, the trend will be towards an increasing number of piers not equipped for receiving coal other than by self-unloader vessels.

The cost of providing facilities for discharging coal at a relatively rapid rate is expensive and industries are loath to make large capital expenditures where alternatives are found -- even though, pro rate, there is an added cost factor on each ton handled by self-unloader vessels.



It is patent, therefore, that the St. Lawrence Seaway, in relation to Nova Scotia coal, presents mixed blessings providing, of course, that the Nova Scotia coal is made competitive by subvention, or otherwise. But basic costs, including the transportation factor, must be kept at the very minimum.

### Water Transport

For several years considerable attention has been directed by the Company to its future steamship requirements for the movement, inter alia, of coal to markets along the St. Lawrence River and to potential Great Lakes outlets. In the considerations it has been necessary to keep in mind the present limitations of pier facilities, the net cost result of improvements, or alternative arrangements for loading and discharging, and the most economical vessel units -- whether self-unloader or otherwise, or a combination of both -- commensurate with the minimum sighted requirements for coal; all to the end of obtaining the cheapest shipping cost. In assessing these future steamship requirements, cognizance has to be taken of what is likely to be the future subvention policy in relation to the competition of U.S. coals and the inroads being made by other sources of energy. These present unknowns are of paramount significance in the determination of a long-term chartering plan and the extent to which this might be undertaken.



From time to time a number of proposals have been received from Steamship Owners, Brokers and Operators whereby they proffer to perform the Company's transportation of part, or all, of the traffic originating at, or destined to, our various operations. In the main, they contemplate in common -

- 1) Substituting their own operations for the Company ship-owning activities;
- 2) Providing suitable vessel tonnages for part, or all, of the water traffic at stipulated rates.

The trend today is towards larger type bulk carriers in order to take advantage of economies afforded by the larger units in reduced cost of freighting. The construction of larger vessels is a means to cut down increased newbuilding costs as applied to the units of freight carried. It is obvious, however, that if Dominion Coal is to enter into the Great Lakes market, a large self-unloader type vessel will be a necessity.

Today, limitations exist in relation to the size of such vessels because of restricted drafts at a number of ports that offer an outlet for Nova Scotia coal. The movement to limited-draft ports would have to be transhipped at Montreal to smaller vessels.

The Company's studies indicate also that availability of suitable vessels under U.K. flag for the coal trade have been diminishing.



In the considerations of a suitable type vessel for the coal trade, cognizance has to be taken also of the flow of coal from the mines to the piers in relation to the most economical unit in order to avoid delays and mesh with coal production. Delays to vessels can cost money and the larger size units naturally attract a larger demurrage cost. On the other hand, improved dock facilities to accommodate larger vessels involve capital expenditures which dictate long-term coal outlets to justify any such undertaking.

#### Rail Services:

The Carroll Royal Commission in its discussion of the proposed Canso Causeway said as follows: "The physical limitations of the existing rail route have not, apparently, restricted the distribution of Cape Breton coal to market by railway." (\*)

While the existing curvatures and gradients from the Cape Breton area have a limiting effect on the train consist and, consequently, result in an increased unit cost of transportation, the opening of the causeway on May 14, 1955 has resulted in a gradual improvement in the elapsed train time and overcome a considerable amount of difficulties that had previously been experienced in the movement of coal and other products from the Sydney area.

As of today, scheduled transit time for a trainload of coal and steel from Sydney to Montreal is 53 hours compared with 79 hours and 45 minutes before the causeway was opened, -- that is, a betterment of 26 hours, 45 minutes. While handicaps still

(\*) Pg. 354 - Report Royal Commission on Coal, 1946





obtain in relation to the tonnage that can be carried from Sydney to Moncton, New Brunswick, this has been in part overcome by additional diesel units per train but, relatively, the increased cost factor still remains. The diesels operating out of Sydney are classed as MR-16 and, under fair weather conditions, one such unit can handle approximately 1500 tons from Sydney to Havre Boucher, N.S.; 1300 tons from Havre Boucher, N.S. to Truro, N.S.; 1650 tons from Truro, N.S. to Moncton, N.B.; in contrast to 2100 tons from Moncton, N.B. over the so-called Trans-Continental segment of the C.N.R.

As a consequence of the improved railway services, it has been possible to control, to a greater degree, blocks of cars destined to consignees on a basis more consistent with required arrivals. Inclement weather, and other uncontrollable conditions, do, however, make all-rail movements less controllable for long hauls of 1000 miles, or more, than where the distance from coal storage depots along the St. Lawrence is only a matter of one hundred miles, or less. The need for being in a position to supply customers' demands on short notice from St. Lawrence coal depots is discussed in another section of this submission.



PART III  
MARKETING

PREAMBLE:

The Nova Scotia Coal industry has suffered major market dislocations in the past few years. Not only has the total consumption varied up and down, but individual markets have changed rapidly.

One of the most drastic shifts has been in the railways, once one of coal's best customers. After World War II the Canadian railways commenced their dieselization program, replacing the old steam-driven engines with the diesel locomotive.

In 1948, 12,421,672 net tons of coal were purchased by the railways in Canada. By 1958 this tonnage had dwindled to 1,393,823. Of the Bituminous coal sold to the Canadian railways, this company furnished 1,551,848 net tons in 1939 compared with 172,735 net tons in 1958.

This market is continually decreasing and holds little hope for the future.

The past decade has seen a tremendous increase in the demand for energy in Canada and a corresponding increase in the production of competitive fuels to meet the demand. Oil and natural gas discoveries, together with hydro resources developed (particularly in



Quebec) have all participated in this growth and have offered such severe competition, that long standing coal markets have been lost.

For example, in 1950, coal supplied 53% of the total energy market and in 1957 only 25%. Nova Scotia coal, situated on the eastern seaboard, with large potential markets in Quebec and Ontario, is handicapped by difficult mining conditions and long freight hauls in order to reach these markets.

In addition to competing with various energy sources, Nova Scotia coal must overcome the severe competition of American coals available throughout this area. The physical layout of American coal seams and their proximity to the central Canadian markets enable this product to be marketed at prices far below any obtainable on Nova Scotia coal without assistance from the Federal Government.

This change in pattern is demonstrated in the following table taken from the Dominion Coal Board's Annual Report 1957-58.

Energy Sources by Percentage of Total

<u>Year</u>	<u>Total all Coal and Coke</u>	<u>Hydro Electric Power</u>	<u>Natural Gas</u>	<u>Total Petroleum Fuels</u>	
1950	53.0%	7.8%	4.1%	35.1%	100%
1951	48.8	8.1	4.3	38.8	
1952	44.9	8.6	4.7	41.8	
1953	40.4	8.7	5.5	45.4	
1954	34.8	9.5	6.5	49.2	
1955	31.6	9.1	7.3	51.9	
1956	29.3	8.3	7.6	54.8	
1957	25.4	8.4	9.8	56.4	





The corresponding tonnages for Canadian coal production and imported coals and coke show a decrease from 46,622,973 tons in 1950 to 33,393,107 tons in 1957. In 1959, tonnage dropped to approximately 24,000,000.

#### MARITIME AND NEWFOUNDLAND MARKETS:

One of the most desirable markets for Nova Scotia coal is in the Atlantic Provinces, and it has always been the policy of the Dominion Coal Company to maintain the highest possible sales volume in that area. Close contact is maintained with all coal consuming Industrial, Commercial, Federal and Provincial outlets, as well as the many dealers established throughout the territory. These dealers perform a valuable function in servicing the Domestic, Commercial and Institutional requirements.

In 1958 the Atlantic Provinces provided an outlet for approximately 2,175,000 tons of our coal. The balance of the market was supplied by other operators in Nova Scotia and New Brunswick and to a small extent by American coal. During that year total sales in the area amounted to approximately 3,200,000

Despite efforts to maintain and increase sales of Nova Scotia coal within the Atlantic Provinces, the inroads of residual oils and middle distillates have eaten heavily into the market. The severity of this becomes readily apparent when stated in terms of annual coal tonnage displaced by oil fuel amounting to approximately 1,000,000 tons



in the Industrial, Commercial, and Domestic fields. (\*) This figure does not include substantial tonnage lost to the various railroads as a result of dieselization, amounting to approximately 1,500,000 tons annually. The inroads by oil in the Industrial and Heating fields will gain further impetus on the completion of another Eastern refinery located in Saint John, N.B., scheduled for production in the Fall of 1960. A large paper mill is presently under construction in the Mulgrave area of Nova Scotia and while every possible effort has been made to have coal equipment installed, foreign residual oil has captured this market. This would have represented an outlet for approximately 100,000 tons of coal annually. The effect of fuel oil consumption in the energy markets of the Maritimes and Quebec is best illustrated by the increase from 3,138,096 barrels in 1945 to 14,719,688 barrels in 1957.

The erection of a Thermal Electric generating plant in East Saint John is scheduled for completion in 1960. If this plant were to utilize coal and run at capacity, there would be an annual requirement of about 150,000 tons of coal. However, from information available, it appears that it will be oil-fired due, primarily, to its proximity to the new refinery under construction in East Saint John.

During the past ten years there has been a marked increase in the use of oil fuel in Industrial, Commercial and Domestic



outlets, displacing substantial coal tonnage which, once lost, is practically impossible to recover. The switch from coal to oil in industrial use has taken place due to the very low prices quoted by oil companies on Bunker "C", "B" and "A" fuel against which Nova Scotia coal, even in a "home market" is frequently not competitive.

In the small Commercial and Domestic fields there generally exists a favourable margin between coal and oil. However, increased convenience and cleanliness strongly favour the use of light furnace oils, which too frequently takes precedence over the dollar savings that can be realized by using coal.

A major difficulty in filling the domestic coal needs of the Atlantic Provinces is due to a very large proportion being required to satisfy winter heating requirements which calls for prepared sizes to be supplied in the five winter months. This places a heavy burden on the mining operation, due to a sudden surge in demand for prepared coals starting generally in November through to March, when demand begins to taper off again and causes considerable difficulties in supply and gives rise to severe criticism from the trade.

#### OTHER ENERGY SOURCES:

Natural Gas does not pose any competitive problem to Dominion Coal sales in the Maritimes, nor will it in the foreseeable future.



The introduction of the New Beechwood Hydro-Electric generating station has had the effect of substantially reducing coal tonnage required in the thermal power generating stations of New Brunswick Electric Power Commission.

The utilization of oil as industrial fuel has shown a steady increase since the War.(\*). Atlantic Provinces' consumption rose from 1,586,272 bbls. in 1950 to 3,723,143 bbls. in 1958. While all of this increase cannot be regarded as coal tonnage displaced, the 150% increase in industrial oil usage in 8 years in a relatively static economy gives evidence of the severe competition that coal has experienced and unfortunately largely displaces Slack coal which is the major portion of our production.

In addition to oil fuels we must meet competition from coals produced by other Maritime operations, such as the Minto Coal Fields in New Brunswick and the Independent Operations in Nova Scotia. With regard to the competition faced by Dominion coal from Minto coal, the following are the major contributing factors. The Minto Fields are able to produce their product at a lower cost due to a major portion of their output coming from strip mining operations as opposed to the more difficult and costly submarine operations of Dominion Mines. Coupled with this lower initial cost, Minto coal fields situated as they are, enjoy more favourable freight rates to the large Slack outlets in New Brunswick and Quebec. In





addition, New Brunswick coal receives subvention assistance on rail coal delivered to subvention areas. The result has been the loss of several accounts amounting to approximately 100,000 tons of Slack coal annually.

The Independent mines of Nova Scotia produce approximately a half million tons of coal. The lower costs of production, together with identical rail subvention, has enabled them to capture approximately 60,000 tons of the Slack coal market from Dominion Coal in 1959.

A large portion of the Newfoundland Domestic coal market is supplied by Dominion Coal, however the Utility, Industrial and Paper Companies' needs for fuel are filled by heavy oil. Gander and Torbay Airports' requirements, amounting to approximately 20,000 tons annually, are the only remaining outlets for industrial Slack coal in the Province at this time.

Competition offered by imported heavy oil delivered by tanker is, and has been over past years, such that it has been impossible for Slack coal to compete in this market. Approximately 250,000 tons of Slack coal have been displaced.

The following is a statement of Newfoundland shipments as reported by Dominion Bureau of Statistics of coal made available



for consumption, 1953 to 1958 inclusive:

<u>Year</u>	<u>Received from other Provinces</u>	<u>Received from United States</u>	<u>Received from Great Britain</u>	<u>Total</u>
1953	210,483 (209,670 Dosco)	57,428	3,022	270,933
1954	195,611 (195,000 " )	63,299	8,260	267,170
1955	177,565 (176,212 " )	84,248	-	261,813
1956	184,138 (179,346 " )	81,076	-	265,214
1957	184,785 (180,719 " )	53,704	-	238,489
1958	156,186 (152,589 " )	20,515	-	176,701

In 1959 a total of 181,071 tons of our coals were supplied.

The Domestic market is vulnerable to oil due to its convenience and, using the rest of Canada as a guide, it can be expected that coal consumption will gradually decline as economic conditions further improve throughout the Province.

#### THE QUEBEC MARKET

According to Government statistics and our knowledge of the market, the total consumption of Bituminous coal in the Province of Quebec in 1958 was approximately 3,030,000 net tons. The Dominion Coal Company supplied 1,641,000 tons and the remaining 1,389,000 tons were made up of imports from the U.S.A., other Nova Scotia and New Brunswick mines. Some 1,153,000 tons of this remainder was not available to Dominion Coal due to the special coal characteristics required (e.g. low sulphur metallurgical coal, high fusion coal to meet special demands and special industrial and domestic preparations). Of the remaining 236,000 tons, the independent operators in Nova Scotia and New Brunswick supplied 156,000. The 80,000 tons remaining is American coal.



COAL:

During the War years and for several years thereafter, the Dominion Coal Company imported and sold American coal in Quebec. This was done partly in an effort to serve long standing customers and partly to maintain a market for Nova Scotia coal when it once more became available for this area. The supply of Nova Scotia coal is now such that the importation of the American product has been discontinued so that most of the customers maintained by this practice are available as outlets for our Nova Scotia product. While American coal was being handled by the Dominion Coal Company, many new accounts were obtained, unfortunately some of these are not available to Nova Scotia coal, as their equipment is such that the characteristics of our coal do not provide satisfactory operation. However, all accounts that can use Nova Scotia coal have been switched over and some new outlets, formerly purchasing American coal through other suppliers, have also been captured.

EFFECT OF COAL IMPORTS:

The coal market in Quebec is subject at all times to competition from imported American coal. Their wide range of characteristics and uniform preparations are very attractive selling points, and American prices are the ones that Nova Scotia coal must meet, not vice versa. Great care and attention must be exercised with every account to assure that business is maintained for Nova Scotia coal.



Coals from independent mines in the Maritimes, with their lower operating costs and equivalent subventions, also compete for a share of the Quebec market.

Under present conditions the importation of overseas coal is not economic and therefore, at present, poses no problem. The cost per ton of American coal is by far the lowest throughout the free World, and it is this source that supplies the competition in solid fuel for the Canadian coal industry. This condition will not alter in the foreseeable future.

#### EFFECT OF OIL:

Imported oil from South America and other world sources, delivered either by tanker to St. Lawrence ports or by pipeline from Portland, Maine, to Montreal, have been and will continue to be one of the severest competitors for the Quebec fuel market. The amount of oil consumed in industry has increased enormously since the War, when it became available in volume. The huge market in new construction contributed to this increase, but along with this were numerous conversions from coal to oil firing (\*). Primarily, the large consumers converted were those situated on deep water, where tankers could come alongside and discharge their cargoes direct to customers' storage. During the last few years, however, prices quoted by oil companies on Bunker "C" deliveries by truck or rail to inland consumers have been below even the lowest prices available on American coals, and are

(\*) Appendix 32





completely out of range of Nova Scotia coal under present subventions. The tonnage lost, due to major consumers converting from coal to oil over the past several years, amounts to approximately 1,000,000 tons. (\*) The refinery capacity at Montreal has increased enormously and two new refineries have been erected in recent years.

#### GAS:

The impact of natural gas is just being felt in the Quebec market. Initially it concentrated on the Montreal domestic trade, which never formed a substantial portion of the bituminous coal outlets. With this consolidated, they are now turning to the industrial users of the province. Another threat for the existing coal market is the proposed pipeline for natural gas which is also invading the industrial area of Three Rivers and Shawinigan. Recently a large apartment development in St. Laurent, a Montreal suburb, converted to natural gas. This was previously supplied with approximately 7,000 tons of Nova Scotia coal annually. A large Montreal sugar refinery has also converted from Dominion coal; a loss of some 50,000 tons. Indications were that a reduction of over \$2.00 per ton would have been necessary to keep this account on coal. The coal tonnage, actual or potential, lost or threatened by natural gas amounts to approximately 400,000 tons. (\*\*) The main inducement used by natural gas to capture the large industrial outlets has been a very attractive initial selling price.

(\*) Appendix No. 32      (\*\*) Appendix No. 34



HYDRO:

The province of Quebec has an abundant supply of water power and the development of these resources has been going forward at a rapid pace since the War. Hydro-electric installations increased to a 1957 installed capacity of 6,383,093 kilowatts. Since 1957, other Hydro resources have been or are in the process of being developed. The station at Carillon, on the Ottawa River, has a potential of 600,000 H.P., the Lachine Rapids potential, when developed, is estimated at 2,000,000 H.P. Developments on the North Shore at Bersimis and Manicouagan are being developed and enlarged. This indicates that surplus power will continue to be one of coal's competitors until the electrical energy demand approaches the available supply. In spite of these developments, the energy demand in specific areas of Quebec is expected to require thermal electric stations to complement the nearby hydro generation.

The electrical companies have been able to anticipate the market demand by several years and this policy usually results in a surplus of energy available for use as secondary power by industry. In many instances, this power is utilized in electric boilers for steam raising purposes and is a direct replacement of coal. In 1957 some 1,236,117,000 k.w.h. (equivalent to 180,000 tons of coal) were used under electric boilers in Quebec. The Dominion Bureau of Statistics reported for the first seven months



of 1959 some 3,022,139,000 k.w.h. (equivalent to 450,000 tons) were supplied to electric boilers. This displaced mostly Dominion coal. The selling price of this power is usually determined by the cost of whatever fuel it is replacing. During periods of normal business activity, this secondary power is usually available only at night and over weekends, when primary demands are low. This has been a longstanding practice and the coal industry has geared its operations accordingly. However, in times of reduced business activity, this secondary power is available for longer periods and the effect on the coal industry, already contending with lower demand generally, is disastrous. The cancellation of coal tonnages during 1958, when a large portion of the Saguenay and Lake St. John hydro-electric energy output was released for distribution through the Quebec grid, resulted in enormous coal stockpiles at the various terminals along the St. Lawrence, customers' yards, and at the pithead. As mentioned, the selling price of this power is established by the cost of producing steam by other methods and is usually below the existing overall operating costs. Nova Scotia coal, sold under subventions to enable it to compete with American coal, has no alternative but to see this tonnage displaced.

By 1959 some 450,000 tons of Nova Scotia coal were displaced annually by this surplus hydro power in the Saguenay and Three Rivers area. (\*)



COKE:

The advent of oil and natural gas for domestic use have had their effect on the domestic market for coke in Quebec. However, this change has not affected the Nova Scotia coke producer as the domestic market has not been supplied with Nova Scotia coke for many years, as we are not competitive with the locally manufactured product. In the industrial field, however, one large consumer has been retained for surplus coke breeze from Sydney.

SEAWAY:

The completion of the St. Lawrence Seaway has, in effect, given the Province of Quebec ocean shipping from both east and west. This matter has been fully dealt with under the part of this Brief dealing with Transportation.

FUTURE PROSPECTS IN QUEBEC:

The prospect for coal markets in Quebec over the next few years is not encouraging. Oil, natural gas and hydro will continue to make extensive inroads into the present coal market. Competition from American coal may become more severe, depending on the effect of the Seaway on Transportation charges.

Despite this, the possibility for new outlets in thermal electric plants could provide an alternative to a diminishing industrial market. It had been the belief that Quebec, with all its hydro resources, would not require thermal generated electricity for many years. It now





appears, however, that the industrial growth pattern would make it more economical to install thermal plants close to the consumption sites rather than transmit electric power from distant hydro sources.

Two generating stations are talked of at present, one in the Sorel area, is expected to be in operation in the middle '60's, the other in the Gaspé area is for completion at some future date.

The Sorel plant may ultimately provide an outlet for two or three million tons of coal per year; the Gaspé plant further substantial tonnage.

It is not a certainty that coal will be the fuel utilized in these plants. Other sources of energy will be investigated and in the ultimate analysis, the cost of producing electric power by various means will determine the fuel used. Here again, a subvention program designed to make Nova Scotia coal competitive solely with imported American coal might not enable the Canadian product to compete with other fuel sources.

#### THE ONTARIO MARKET

The existing and potential demand for energy in Ontario provides the greatest market for bituminous coal in Canada. The tonnages of American coal imported over the past several years are in the statement on the next page.



Bituminous Coal Imported into Ontario

<u>Year</u>	<u>Net Tons</u>
1952	17,225,131
1953	16,833,084
1954	13,457,489
1955	14,644,945
1956	17,596,854
1957	15,587,259
1958	10,610,651

Only a part of this 1958 tonnage, however, was available as a potential market for Dominion Coal. The Nova Scotia coal available for sale in volume is a 3/4" Slack, 3% sulphur content and approximately 2100° fusion temperature of ash. These characteristics limit the potential market. From our information we estimate that the steel industries in Ontario using low sulphur washed coals consume approximately 4,300,000 tons. The brick and other allied industries also demand a low sulphur coal, this tonnage amounts to approximately 25,000 tons. The size factor is also an important consideration, many industries having expanded to such an extent that existing boiler plants can only operate on a double screened preparation, or the design of the plant demands the use of a higher fusion coal than Dominion. From information gathered by our sales survey calls, this demand should amount to 1,000,000 tons. Coal for railway use, though diminishing, is still a factor. Here again, a double screened coal is necessary and this amounts to some 650,000 tons a year. However, we do not have this size of coal to supply. The domestic, commercial and light



industrial coals in use in the province are largely free burning, high fusion stoker coals and here again the Nova Scotia coal available does not suit the requirements. Approximately 1,390,000 tons are consumed annually by this group. A further 20,000 tons were shipped to the head of the lakes, beyond the reach of Nova Scotia coal. 1,161,000 tons were imported into Western Ontario, beyond Woodstock, where Nova Scotia is not competitive in price under present subvention. Long term contracts and imports of high fusion special coal for Quebec destinations total a further 180,000 tons.

In 1958 the remaining tonnage of 1,367,000 tons was the market for which Nova Scotia coal is suited, consisting mainly of large industrial users, equipped with pulverized fuel burning equipment. Here again the severest competition is encountered. The ability of the equipment to handle lower grades of coal and the large tonnages involved, attract the keenest bidding from American suppliers.

Despite these difficulties, the Dominion Coal Company expects to sell some 750,000 tons of coal in the 1959/60 season in the market as far as Woodstock in the area where subvention has made us competitive. The new subvention rates established April 23, 1959 reopened the door for Nova Scotia coal in this market.



COAL IMPORTS:

The Province of Ontario, lying just north of the large Pennsylvania, Ohio and West Virginia coal fields, has always provided a ready market for these imported coals. The coal users of Ontario have developed their handling facilities to suit this source of supply. For the most part industrial coal users and suppliers have located along the shores of the Great Lakes and coal deliveries can be made from American ports to Canadian depots with the least possible delay. With few exceptions, these depots have no unloading equipment, and deliveries must be made in self-unloading vessels. The very short water distances covered in most of these movements, the rapid loading at American ports and unloading rate governed by the vessel itself, result in low transportation costs.

The low transportation costs, due to Ontario's position, and the low production costs available on American coal provide Nova Scotia coal with very severe competition. For example, Pennsylvania coal of equal B.T.U. value with Nova Scotia coal, can be landed F.O.B. dock, Toronto, for \$8.25 per net ton. The cost of Dominion coal, without any assistance from subventions, would be approximately \$15.83 per net ton.

In addition, the great variety of American coals, particularly in their fusion and sulphur characteristics, have resulted in boiler designs that will not operate with equal efficiency on Nova Scotia coal.





American bituminous coal imported into Canada is subject to a duty of 50¢ per net ton. However, in the coke producing plants of the steel industry and in certain industries where the finished product is exported to the United States and in synthetic rubber industries, the bituminous coal used is subject to a drawback which, in effect, cancels the duty imposed.

The freight rates, coal characteristics and costs, tariffs and exchange applicable on American coal, coupled with the existing dock facilities form some of the problems encountered in marketing Nova Scotia coal in the industrial area of Ontario.

#### OIL:

In the past, oil's share of the industrial Ontario market was determined by its ability to compete pricewise with American coal. The low cost of American coal and the proportionately large transportation charges on oil combined, made coal the principal choice of most major consumers.

Recent developments, however, may disrupt this pattern. The Seaway now opens Ontario to foreign oil suppliers throughout the World on a direct shipment basis. The western Canadian oil fields, with their pipeline outlets to Ontario, now have lower transportation costs available to destination.

The huge demand for aviation and motor vehicle fuels has resulted in corresponding increases in Ontario's refining



capacities. The production of aviation or motor vehicle gasoline, yields at the same time a large quantity of fuel oil.

A breakdown of the refinery yield for Canada in 1958 is as follows:

Gasoline	36.03 %	by volume
Kerosene	5.25 %	
Distillate & Light Fuel		
Oil	27.31 %	
Residual Oil	17.41 %	
Other Products	<u>14.00 %</u>	
	<u>100.00 %</u>	
For Eastern Canada:		
Gasoline	32.84 %	by volume
Kerosene	6.14 %	
Distillate & Light Fuel		
Oil	27.45 %	
Residual Oil	18.72 %	
Other Products	<u>14.85 %</u>	
	<u>100.00 %</u>	

From the above, a refinery runthrough yields in Eastern Canada 32.8% gasoline and, at the same time, 46.2% light and heavy fuel oil by volume. When the relative densities of these products are taken into account, it shows that for every ton of gasoline produced there is approximately 1.75 tons of fuel oil available.

The demand for aviation and motor fuel is expected to maintain its rate of growth for years to come. The consequent increase of fuel oils produced, coupled with the probably lower crude oil prices, due to improved transportation, will undoubtedly increase the competition to be expected from oil in Ontario. One of the interests of the



refineries will be to avoid large inventories of this fuel and it can be expected that prices will be such as to ensure this result.

NATURAL GAS:

The completion of the natural gas pipeline into Ontario has made this fuel available to many industrial coal users. The principal conversions to date have been from coal users previously supplied with American coal, and as such, have not affected Nova Scotia coal sales, except by reducing its potential market.

At the moment, natural gas is threatening Nova Scotia coal markets in the Ottawa and St. Lawrence River Valleys, and some of Nova Scotia's bituminous coal markets are being lost to natural gas this year. Along the St. Lawrence River at Cardinal and Maitland, two major users of bituminous coal (120,000 tons), have already converted to gas-firing.

The prices quoted on natural gas to major outlets, such as paper mills and cement plants, have been well below the prices obtainable on competitive American coal. As already stated, these American competitive prices are the basis used in calculating the subvention payable on Nova Scotia coal.

The practice of the natural gas companies would appear to be one of capturing major outlets at prices below those obtainable on coal and oil. The market disruption caused by this practice, puts coal in the role of a secondary supplier, whose tonnage is dependent



on the interruptions experienced in the gas supply. It is impossible to gear the undersea operations in Nova Scotia mines to this type of unpredictable market, which depends on so many variables. The problems involved in mining, transporting and stockpiling bulk materials such as coal will not permit economical operations based on the day to day requirements as secondary supplier.

#### HYDRO ELECTRIC POWER:

Ontario's electrical power requirements have grown so tremendously in the past decade that they have surpassed the available hydro sources. This has altered electric power's role from that of a competitor to one in which it may prove to be an important customer of the Canadian bituminous coal industry.

At the present time, two coal fired generating stations are in operation, one at Toronto and another at Windsor, and between them they provide a market for approximately 1,500,000 tons of coal annually. Recent Hydro development at Niagara Falls and on the St. Lawrence Seaway, are generally satisfying the electric power demand; this has reduced the quantity of thermal electricity required to be produced and the resulting coal inventories at these plants will eliminate coal purchases this year. It is expected that within a few years the total electrical demand will have absorbed the latest hydro power and the thermal stations will again be in the market for coal.





In addition to the present thermal plants, two others are planned, one at Lakeview just west of Toronto, the other at Fort William. Construction has started at both and the Lakeview station, with a final potential of some 5,000,000 tons, will start operating in 1962.

The total consumption of Ontario's thermal electric stations, in terms of coal, is forecast at 26,500,000 tons by 1980.

Boiler equipment, installed in these plants, is designed to handle coals having the same inherent characteristics as those of Nova Scotia coal. As proof of this, a 10,000 ton test was conducted on Dominion coal at the Richard L'Hearn Station in the fall of 1958 with satisfactory results.

The use of bituminous coal in these stations is based on the present and projected costs of American coal compared with costs of competitive fuels, and it is this competition that Nova Scotia coal must meet if it is to participate.

It is not beyond the realm of possibility that competitive fuels will seek to capture these markets, if they are able to offer their products at prices which would assure their participation. Nova Scotia coal, based as it is on competitive American coal prices, could be excluded.

One of the attendant physical problems in supplying these thermal plants is the method of delivery, which has been dealt with in the Transportation part of this Brief.



COKE:

Our production of coke has always been absorbed in the Maritime and Quebec markets and the changing trends involving this fuel in Ontario have no bearing on our product.

SEAWAY:

The St. Lawrence Seaway has opened Ontario's ports to the oceans of the world. Their new accessibility has not proved to be as advantageous to Nova Scotia coal as is generally thought. The majority of the coal docks in Ontario are designed to be serviced by self-unloading vessels, so that even though ocean colliers can reach the Great Lakes, in most instances, it is impossible to unload them. (See Transportation part of Brief.)

FUTURE PROSPECTS:

The present and future demand for coal by Ontario's thermal electric stations provide the greatest hope for the Nova Scotia coal industry. The expected demand of some 26,500,000 tons by 1980 would far exceed the possible production in Nova Scotia. Only a portion of this market would be necessary to maintain steady employment. The coal we have available has proven satisfactory for their use and the expected stable requirements would permit mining operations to be based on a solid footing.

This demand for coal in volume may not reach a substantial level for several years. This interim period will be most trying for the coal industry.



Interim markets must be available to keep the mines operating. If these markets are not maintained, the Nova Scotia coal industry will not, in the future, have the capacity to participate in an expanding Ontario thermal market.

There remains a market for bituminous coal in the stationary power plants operated by the railways. This will never approach the tonnage formerly used as locomotive fuel, but does afford a desirable outlet. It is unfortunate that, at the present time, the size of coal required by the majority of these installations is not available in sufficient volume to permit our participation.

#### EXPORT MARKETS

Situated as they are, Nova Scotia mines would appear to have a distinct advantage in the European export market. For a time during the last decade, it appeared that a large market could be developed on a continuing basis and for the years 1955 and 1956 some 494,789 tons were exported with subvention assistance.

Changing conditions in the world's oil supply, increased production in European mines and altered manufacturing techniques have all contributed to reduce this export outlet. So much so that European coal mines are now plagued with surpluses and widespread down time at the collieries.

Exports were also made to South American countries, from 1949 to '52 a total of 160,215 net tons were shipped to Brazil. This market is no longer available to us due to economic conditions.



Attempts have been made to secure other export markets. Quotations have been submitted on coal for Korea and Japan, as examples, but purchases were made mostly from other countries, whose coal analyses were more suitable, with a small amount from Western Canada.

It would appear that for the present, due to world wide surpluses, the export market will offer little relief to the problems of the Nova Scotia coal industry. There is a choice of a wide variety of coals, the majority of which, either through the intense mechanization of mineable seams (as in U.S.A.) or through cheaper labour costs, can be sold at prices below those of Nova Scotia mines.

It may come about that the reductions in the world export market will remain constant as importing countries reduce their coal requirements and satisfy a greater proportion of these requirements from the increased European and Asian production.

### BUNKERS

Prior to World War II, some 300,000 tons of bunkering business was obtained yearly. This tonnage rose steadily throughout the war years, due to the huge convoys which took on supplies and fuel at Halifax. The peak was reached in 1945 when some 800,000 tons of bunker coal were supplied. With the return to peacetime conditions and the increased use of oil-fired vessels, the bunkering trade has declined steadily until finally, in 1958, only 28,000 tons of coal were supplied.







There is no prospect for a revival of this business. The coal-fired ships in use in world trade are of advanced age and when scrapped will be replaced by vessels that are oil-fired.

## GOVERNMENT ASSISTANCE TO N.S. COAL

### SUBVENTIONS

Since 1928 varying tonnages of Nova Scotia coal have been moved to Domestic and Export markets, with some form of Government assistance. (\*) The original Government Agency was the Dominion Fuel Board which continued until the formation of the Dominion Coal Board by Act of Parliament in 1947.

Since 1945, the competitive conditions, under which Nova Scotia coal has been sold, have increased in severity. American coals from Pennsylvania and West Virginia have shown very little increase in price at the mine during this period, and while American freight rates have increased, they have been partially offset by increases in rates on Canadian roads which have cancelled whatever advantage Nova Scotia coal might have had. The premium on Canadian funds has also operated against Nova Scotia coal, for example, a West Virginia coal costing \$4.00 F.O.B. mine, takes a \$3.56 freight rate to Lake Ontario, including unloading, making a total of \$7.56, which is reduced by 30¢ a ton, using an exchange rate of 4%. A similar situation exists on all rail shipments to Canadian destinations.

(\*) Appendix No. 36



Recently American railroads reduced their rates on coal shipments to lakefront for furtherance by water. These reductions vary from 6¢ to Lake Ontario deliveries up to 37¢ on deliveries through Lake Erie.

Without Federal subvention assistance to offset these conditions, the Company's sales in the central market would have been negligible.

At the present time, with the exception of coal sold to the railways, no subvention payments are made on deliveries of Nova Scotia coal east of Levis, Quebec, and, were it not for this assistance, the Atlantic Provinces would be the only market available to Nova Scotia coal. With no subventions, the tonnage of Dominion Coal sold would drop from approximately 4,300,000 tons this year to 2,200,000 tons. Such reduction in coal sales would reduce activity at the mines, with a resultant reduction in demand for motive power, electric power, industrial and domestic, as well as ship bunkering, to a point where a further reduction of 125/150,000 tons could be expected.

Under existing subventions and based on present costs, the competitive market area for Nova Scotia coal extends westward to approximately Woodstock, Ontario. There are exceptions, particularly in the waterfront areas, where deliveries of American coal can be made direct by self-unloader vessels, and where boiler equipment is suitable for burning cheap strip mined coal.



The future of the coal industry is closely allied with a stable market. It is impossible to operate economically on a day to day basis. In this regard, the possibility of approving subvention payments to combat competition from other fuel sources should be investigated. From past experience these fuels could disappear from the market in time of crisis, and the cost of maintaining undersea coal mines in a semi-ready operating condition is prohibitive. To close an undersea mine for an extended period, is to lose its production forever. Even the home market of Nova Scotia coal, where subventions are not applicable, has felt very seriously the impact of foreign oil importations, and, as a result, outlets for slack coal, the main component of the present surpluses, have and continue to be lost.

Over the years market conditions have altered the rates and the districts in which Nova Scotia coal required assistance in order to compete with American coal. (\*)

Prior to World War II, subventions enabled Nova Scotia coal to compete in both Quebec and Ontario.

After the commencement of hostilities, there was an increased demand for coal in the Maritimes and for ship bunkering, and during the years 1942 to 1952 inclusive, the company was unable to serve the Ontario market.

After the war, markets in the Maritimes and Quebec absorbed our output and it was not until 1953 that outlets in Ontario could again be supplied in any volume.



Subventions by the Federal Government since 1928 have enabled the sale of some 45,000,000 tons of the Company's coal over the years that it has been in force. (\*)

### SUMMARY OF SUBVENTION PAYMENTS:

The present Government assistance available in Quebec and Ontario Provinces is summarized below and became effective April 23rd, 1959, under Order-in-Council No. P. C. 1959-509.

#### QUEBEC:

7.25 { Up to \$4.50 on water movement to Quebec Ports.  
Up to \$2.75 on movement inland from Ports.

35% of the freight rate on all rail shipments to Quebec City and Saguenay areas.

55% of the freight rate on all rail shipments to other areas of Quebec, except:

70% of the freight rate on all rail shipments to the five western counties of Quebec bounding the Ottawa River.

No subvention in the area east of Levis, excepting on railway coal.

Generally these rates provide adequate assistance to make Nova Scotia coal competitive with American coal. They provide no relief, however, from the competition offered by other sources of energy. Nova Scotia coal must be sold in competition with imported American coal and, as a guide, the Dominion Coal Board supplies monthly competitive figures on American importations.





ONTARIO:

On coal shipped ex Sydney by water to Montreal for furtherance to Ontario:

\$3.25 per net ton minimum guaranteed  
\$4.50 per net ton maximum

On coal transhipped from Montreal to Ontario:

up to \$4.50 per net ton maximum with  
a total overall maximum of \$7.75 per  
net ton

On coal shipped all rail from Nova Scotia to Ontario destinations:

70% of the freight rate - maximum \$5.00.

These subvention rates permit Nova Scotia coal to compete industrially westward to a North and South line drawn at approximately Woodstock, Ontario.

Federal Government business has been obtained as far west as Fort. William. However, this is due to the 20% preference on Canadian coals permitted at Federal Government establishments.

As mentioned before, however, the characteristics of our coal and the size available in volume restricts our sales mainly to large pulverizer equipped plants.

In addition, the Nova Scotia Coal industry has received valuable assistance at all times from the Nova Scotia Government. Direct financial aid and the additional Government grants available to schools that decide to install coal-fired equipment are only two examples. Furthermore, the Government, knowing both the importance and the



problems of the coal industry, has seized every opportunity to present the coal industry's case to the public and to the Councils of Canada.

### DISTRIBUTION

At the present time our Nova Scotia coal is distributed in a variety of ways, each of which best suits the particular consumer involved.

The Newfoundland trade is served by coastal vessels from our loading piers at Sydney and North Sydney.

The Nova Scotia, New Brunswick and Prince Edward Island markets are served by truck in those areas close to the mining districts, and by railway direct to the customer's premises or to the dealer's yard for the more distant points.

The Quebec market is served several ways, depending on the customer's requirements. In some cases shipments are made direct to customer by rail, or by ocean bunker. In others, the coal is first shipped by water to our dock facilities for storage, further preparation and final delivery to customer by truck or railway car.

In Ontario some customers are served directly by rail from Sydney, others by rail ex Montreal. In addition, coal is transhipped at Montreal from ocean vessels to self-unloading or bunker-type lake vessels for furtherance to customers served by water or others who must be served by truck from local docks.

The method used for any particular delivery is determined by the customer's handling and storage facilities.



From time to time, the question of serving Quebec and Ontario customers on a direct from mine rail basis has arisen. One of the main reasons for this is the obvious cheaper costs which would result from eliminating the over dock charges. On the surface this would appear to be one method of helping Nova Scotia coal's competitive position in these markets. In practice, however, it has a limited application as there are many customers who cannot handle coal in car lots, their facilities demand truck delivery, or their storage facilities are limited to part car tonnages.

Other customers cannot or will not rely on a source of supply some 1,200 to 1,500 miles distant. They have become accustomed to the reliability and simplicity of having their fuel requirements stored on docks within short truck or rail hauls and if Nova Scotia coal cannot provide this service, they will purchase from our competitors.

In addition to the most important consideration of customer acceptance, there is the purely physical problem of handling an all rail movement of this magnitude. The vicissitudes of a Canadian winter are well known, their effect on a long distance rail movement in open top cars can be calamitous. Frozen coal, late arrival and the attendant unloading problems have proven the need for alternate, nearby sources of supply. Our docks at Quebec, Three Rivers, and Montreal were developed to this end, and time and again their presence has enabled the Company to win and hold markets for Nova Scotia coal.



## RESEARCH

### Research Program in Conjunction with the Federal Government

#### Coal-fired Gas Turbine

In 1949 the Department of Mechanical Engineering, McGill University, Montreal, initiated a Research Project to burn coal in gas turbine engines using the exhaust-heat cycle.

This program, undertaken by McGill University under a contract with the Federal Department of Mines and Technical Surveys and considerable financial assistance from our Company, consisted in the design and construction of an experimental unit in the University's Gas Dynamics Laboratory in Ste. Anne de Bellevue.

The most important application of this machine for Nova Scotia coals appeared to be for installation in a locomotive which would be cheaper to operate than the diesel engine and thus retain an important market for the fuel.

Unfortunately, after some nine years of work, the project was abandoned due to the fact that no solution could be found for some of the problems encountered with burning coal especially with the corrosion experienced in the heat exchanger tubes.

#### Stationary Coal-burning Equipment

Our Nova Scotia coals combine high coking and low ash fusion temperature characteristics which necessitate certain design features and certain specifications in the burning equipment, if it is to be at all efficient.





It is well recognized in Canada, and especially in the Central Market area, the boiler and stoker equipment in use, although manufactured in this country, has been designed originally in the United States and for coals having different burning characteristics.

This proved to be a serious limitation in the use of our coal when we expanded our market in that area. Our Company, with the Fuels Division, Department of Mines and Technical Surveys, Ottawa, recently embarked on a research program to supply the answer to some of these problems. The Dominion Coal Company shares the financial cost and has placed a combustion engineer at the disposal of the Department.

Some experiments had been made by the Fuels Division prior to the start of this program, notably at the Central Heating Plant in Ottawa and D.V.A.'s Ste. Anne's Hospital in Ste. Anne de Bellevue, Quebec.

Following is a list of the equipment studied with Sydney coals:

<u>Stoker</u>	<u>Manufacturer</u>	<u>Plant</u>	<u>Location</u>
Spreader Stoker Travelling Grate	Foster Wheeler	Central Heating Plant	Ottawa
Spreader Stokers Travelling Grate	Babcock-Wilcox	Firestone Rubber Co.	Hamilton
Spreader Stokers Travelling Grate	Babcock-Wilcox	Canadian Cottons	Cornwall



Spreader Stokers Dump Grates	Foster Wheeler	Westminster Hospital	London
Spreader Stokers Oscillating Grates	Foster Wheeler	Dominion Steel & Coal	Etobicoke
Chain Grate	Babcock-Wilcox	Westminster Hospital	London
Chain Grate	Babcock-Wilcox	R.C.N. Shearwater	Halifax
Chain Grate	Babcock-Wilcox	Queen Mary Hospital	Montreal
Underfeed Type E. Stoker	Combustion Engineering	Ste. Anne's Hospital	Ste. Anne de Bellevue
Vibra-Grate Stoker	Affiliated Engineering	R.C.N. Shearwater	Halifax
Pulverized Firing	Babcock-Wilcox	R. L. Hearn Station	Toronto

These experiments have demonstrated the types of equipment best suited to burn our coals. At present a unit is being designed conducive to the best use of our coal.

The results of the research work done so far can best be summarized as follows:

- (a) A list of coal burning equipment best suited to the characteristics of our coal is available to Consulting Engineers.
- (b) Design specifications such as furnace exit temperature, burning rates, grate opening, etc., can be recommended.
- (c) Stoker grate design and composition can now be specified.



### Coal Additive Research

In conjunction with the work done on equipment design, research is being done to find an additive which would have the following qualities:

(a) Would increase the ash fusion temperature from 2050° F. to at least 2400° F.

(b) Which would be cheap and easily applied.

(c) Would adhere firmly to the coal fragments and would not segregate during handling.

In this regard, a lot of experimentation has been done in the United States, particularly on Indiana and Illinois coal but, unfortunately, the results obtained there could not be extrapolated and they do not apply to our Nova Scotia coal.

Throughout the years, products have appeared periodically on the market which claimed would correct all the problems but no thorough scientific studies were made. This project is well under way now at the Fuels Division in Ottawa and bench test procedures and actual clinkering test procedures have been set up to assess the values of certain materials. The work has now reached the stage of routine laboratory experiments necessary to collect the required data and it is hoped that an answer will be found soon. If an additive is found, this will certainly offer our coals a market which has been closed to us because of the limitations imposed by the burning equipment installed.



### Road Paving

The Curtiss-Wright Corporation in the United States announced early in 1959 that it had developed a road binder using coal tar and coal.

A pilot plant has since been built in the State of Kentucky and approximately 12 miles of road have been paved using this binder.

Following negotiations with the Canadian branch of Curtiss-Wright, a serious investigation was undertaken by ourselves and samples of coal tar and coal have been sent to the U.S. for preliminary testing.

### Briquetting

Because we are often penalized for failure to meet the Canadian Government Size Specifications when coal is supplied to various Federal Government Agencies, another investigation was started with the Department of Mines to determine the possibility of briquetting the coal fines. This study was undertaken in two ways:

- (a) Binderless briquetting
- (b) Briquetting with a binder

To date, these tests have not been proven economically successful, but experiments are continuing.

### Coal Pak Unit

Samples of coal were sent to the Bituminous Coal Research Institute to experiment with this automatic coal burning





unit. One of our engineers was present during the test and the results were that a double screened preparation of coal was found necessary for satisfactory performance.

The Matheson Co. of New Glasgow has shown interest in this unit and they propose to build a unit in Nova Scotia for further experiments with our coals.

### Market Promotion

It has been the policy of the Dominion Coal Company to promote the sale of its products by a variety of means. Direct and close contact with its customers will continue to be the main approach to maintaining and increasing markets. In conjunction with this, a combustion engineering service is available to all customers, free of charge, to assist them in resolving any difficulties that may arise.

The Coal Sales Department is made up of 20 persons actively engaged in coal sales in their respective districts from Newfoundland to Ontario. All are competently trained to provide information and assistance to customers on any problems concerning coal and its merits as compared with competitive fuels.

In a similar manner, contact is maintained with Architects, Consulting Engineers, and others involved in new construction and boiler room renovation, to acquaint them with the latest available information on coal-fired equipment and to obtain their assistance in recommending its use on current or proposed projects.



Another of the Dominion Coal Company's market promotion aids is a mailing service whereby consumers are kept informed about the latest advances in coal usage for their own particular requirements. Pamphlets, brochures, extracts from tests, etc., are distributed regularly to Industry, School Boards, Dealers, Architects, and the like, to keep them informed of the latest in coal equipment, and also to dispel some of the misconceptions about solid fuel utilization.

### NUCLEAR ENERGY AND ITS FUTURE IMPACT

For the past decade or so, the shadow of nuclear energy has stretched across the land. One segment, its military potential, has altered the social and military thinking of our age; the other, its peaceful use, has yet to prove its potential in practice.

It is this second, untried phase that may affect the coal industry's future linked as it is with the electrical demand of the country through thermal generating stations. At present there are many estimates of the cost of nuclear produced electricity, some show a favourable comparison with thermal plants, others predict this state will be reached in 10, 15 or 20 years. In any event, nuclear fired stations are being built around the world and it is rumoured that Canada is to start a 200,000 kilowatt station.

The cost of such a station would be approximately 60 million dollars; whereas, a coal-fired station of comparable capacity, based on present cost data, could be erected for



approximately one-half, or 30 million dollars. It is also reported that the cost of producing electricity, even disregarding capital costs, is cheaper with a conventional thermal plant or hydro plant.

The role of nuclear energy in smaller power plants is still more speculative. The initial capital costs would undoubtedly provide a greater obstacle for private industry than for government-backed projects, but smaller plants are in operation in nuclear submarines, freighters and ice breakers. The experience to be gained from them could give rise in the future to stationary power plants suitable for industry generally.

It may be concluded, therefore, that while nuclear energy may pose a threat to potential coal markets, its main role could be that of complementing other fuels in satisfying our rapidly expanding energy requirement.



## SUMMARY AND CONCLUSIONS

The greatest difficulties facing the coal mining industry of Nova Scotia are the cost of production and lack of markets. Every effort is being made to keep production costs at a minimum. To this end the operations have been mechanized to a substantial degree and mining techniques have been improved. Preparation plants have been erected and put into service. In spite of all this, production costs are still too high. The output of coal per man day in underground operations in the United States is three times as large as that of the Nova Scotia coal mines and the cost per ton of American coal, at the pithead, is about half of the cost in Nova Scotia. There are many reasons for this, some of which are --

- (i) The American mines are underground instead of being submarine. Because of this advantage they are able to move the mine entries closer to the working face, as it becomes economically feasible to do so. This means much shorter travel time and less cost involved in transporting men and materials to the working face and transporting coal from the working face to the pithead. This is obviously impossible when the working face is out under the ocean.





- (ii) Seams of coal in most of the American mines are thick and flat lying, which makes possible a very high degree of mechanization.
- (iii) The cover above the coal seams (the total amount of rock overlying the coal) is much lighter in the United States, which makes possible the use of low cost, room and pillar mining techniques. Due to the extreme depth of the Nova Scotia mines, it is unsafe, and indeed impossible, to use this method and, as a result, the much more expensive longwall mining method must be used.

The Dominion Coal Company is now experimenting with a different type of longwall operation, known as "longwall retreating". If this type of operation can be successfully carried on in the submarine mines of Cape Breton, some worthwhile savings can be effected. Experimental retreating longwalls are now being worked to determine if such methods can be safely and successfully carried on and, within the next year, this will have been determined. If the experimental work is successful, a retreating longwall system should be the method adopted as general mining practice, where it is possible to use it. With the adoption of the retreating system, the use of conveyor belts should be made more general throughout the collieries and, in some



cases, the belts should extend from the working faces to the surface. This would cut production costs somewhat, not only by reducing transport costs but by minimizing delays in the operations which are brought about when mine cars are used for underground transportation purposes. It is not expected that a great deal can be done on the longwall faces themselves, apart from the completing of the installation of yielding steel roof supports, for the equipment in use on the faces is of the very latest design and under normal conditions performs well.

In order to make the coal more acceptable to customers, it is essential that a central preparation plant be provided and that, incorporated in it, should be equipment to clean and to dry the Minus 1/4" product. A plant for cleaning and drying fine coal produced at Sydney Mines is also needed. In addition, equipment should be made available to dry the fine coal from the stockpile in Montreal, so that it can be delivered to customers sufficiently free of moisture to permit its easy handling in their plants. It is estimated that the cost of all these above mentioned improvements would be approximately \$15,000,000. Unfortunately, the Company cannot finance such capital expenditures and assistance from other sources must be obtained if the necessary work is to be undertaken.



The Sydney Coal Field contains the only large reserves of high grade coal in Canada east of Alberta and, in the interests of the nation, everything possible should be done to safeguard these reserves for future use. Since they are submarine, they cannot be readily won from openings other than those which presently exist, or which are proposed. In summary, these are the things which can be done to reduce costs and to improve the grade of product produced from the Nova Scotia mines.

Now, the ability to sell the products of the Nova Scotia mines in competition with American coal and with other sources of energy, such as natural gas and oil, is the most important single factor facing the industry today. Major factors affecting the ability of Nova Scotia coal to compete in the Canadian fuel markets are, as has already been mentioned, the cost of production, in some cases, an inadequately cleaned product and the very high cost of transportation to move this material to the market where it is to be consumed.

Due to the series of cost factors mentioned above, we know, from long experience, that the only way to get the best possible cost from the Nova Scotia mines is to see to it that they work constantly, with virtually no idle time whatsoever. The cost of maintaining idle mines, which extend several miles under the sea, is so tremendous that it is impossible to maintain them without incurring financial losses which will quickly bankrupt the Company.



This being the case, it is foolish in the extreme to consider keeping mines open, and in an operable condition, which will be closed down thirty to forty per cent of the time due to lack of markets for the coal. As has been clearly pointed out, the most that we can expect for the next few years is an annual market of 4,000,000 to 4,500,000 tons. With the productive capacity of the present mines being substantially in excess of this figure, the only alternative left is the permanent closure of certain operations. The natural and logical move is to close those mines which have high production costs, or which produce a product which does not find ready acceptance in the fuel markets. The Company has already stated publicly that in order to bring any semblance of stability to this industry, productive capacity must be brought more nearly in line with the market for the product.

If, at a later date, it appears that the market for Nova Scotia coal should increase, due to the use of this product for the production of thermal power, or any other use which may develop, an improved production can be secured by simply increasing the production of the existing mines, or, if necessary, opening a new slope in the Lingan area.

In addition to the action mentioned above, it will still be necessary for the Federal Government to maintain a substantial subvention program, to assist in moving coal to the central markets of Quebec and Ontario. If such a program is not maintained, it will





mean additional mine closures and the industry will then have to contract itself to the point where it will supply only markets immediately adjacent to the mines in the Maritime Provinces. In addition to the increasing competition from Canadian oil and natural gas, we are faced, in Eastern Canada, with heavy competition from foreign oil which could easily be cut off in time of emergency. This problem has been recognized in the United States and a partial solution reached by the establishment of import quotas on oil entering that country. It would be highly desirable for the Canadian Government to consider some suitable form of protection for its local fuel industries.

One bright spot for the Nova Scotia coal industry exists in the possibility of selling substantial quantities of slack coal for the production of thermal power in Ontario. Tests have been made and it has been proven that Nova Scotia coal is suitable for this purpose. Furthermore, the Ontario Hydro Commission has estimated that, over the next ten years, their need for fuel to be used in the production of thermal power will increase greatly. If Nova Scotia coal can secure even a part of this market, it might well be an answer to the future of this industry. Furthermore, while this is a matter for the Government to determine, nevertheless it should be borne in mind that if Nova Scotia coal is not used for this purpose, the chances are that imported American coal



will be used. Major purchases of American coal for this use would result in a further imbalance in an already unfavourable balance of trade with the United States. This could have a substantial effect on the Canadian economy. If Nova Scotia coal is to be moved into Ontario in large quantities, it will necessitate a continuing program of Government subvention. However, this money will be paid to Canadian miners; to Canadian transportation agencies and to various Canadian suppliers. In other words, this money would stay within the country and would not go outside to further aggravate an already undesirable trade balance. This fact, I think, should be considered quite strongly by the proper Government agencies.

It is also desirable that the Government, in considering the type and extent of the subvention program which it may wish to establish for the future, should consider establishing a definite program which could be put into effect and assured for a five to ten year period. The program would have to be flexible, but, under present conditions, the industry is never sure from year to year just exactly what the subvention program will be.

This makes it impossible to work out any long term plans and to make long term commitments for efficient shipping and docking facilities, because, without a continuing program of Government subvention, not one ounce of Nova Scotia coal would move outside the Maritime provinces. If some assurance could be given

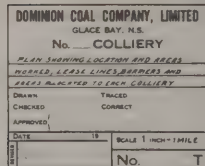


of what the long term program would be, it would then be possible for the Company to make more intelligent plans.

In closing, I would like to pay tribute to the excellent cooperation that we have received from the Federal and Provincial Governments, and from the Dominion Coal Board. All of these agencies have been most generous and helpful in attempting to solve the very difficult problems of the Nova Scotia coal industry. We also appreciate the opportunity of presenting this Brief before the Royal Commission on Coal (1959), and if there is any information which the Commission may desire, and which has not already been presented, we will be happy to make it available.

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# LEGEND

ACADIA COAL COMPANY LEASEHOLD	
MINES NOT WORKING SLOPE	
MINES NOT WORKING SHAFT	○
MINES WORKING SLOPE	◐
SUBLEASE TO GREENWOOD COAL CO.	
PROBABLE COAL RESERVES ACADIA SEAM	

## APPENDIX No. 2

DOMINION COAL COMPANY LIMITED	
GLACE BAY N.S.	
COLLIERY No.	
PLAN OF ACADIA COAL CO. LTD.	
LEASEHOLD SHOWING	
AREAS WORKED.	
DRAWN	TRACED
CHECKED	CORRECT
APPROVED	
DATE	19
Scale 1" = 2000'	No.

WESTVILLE AREA

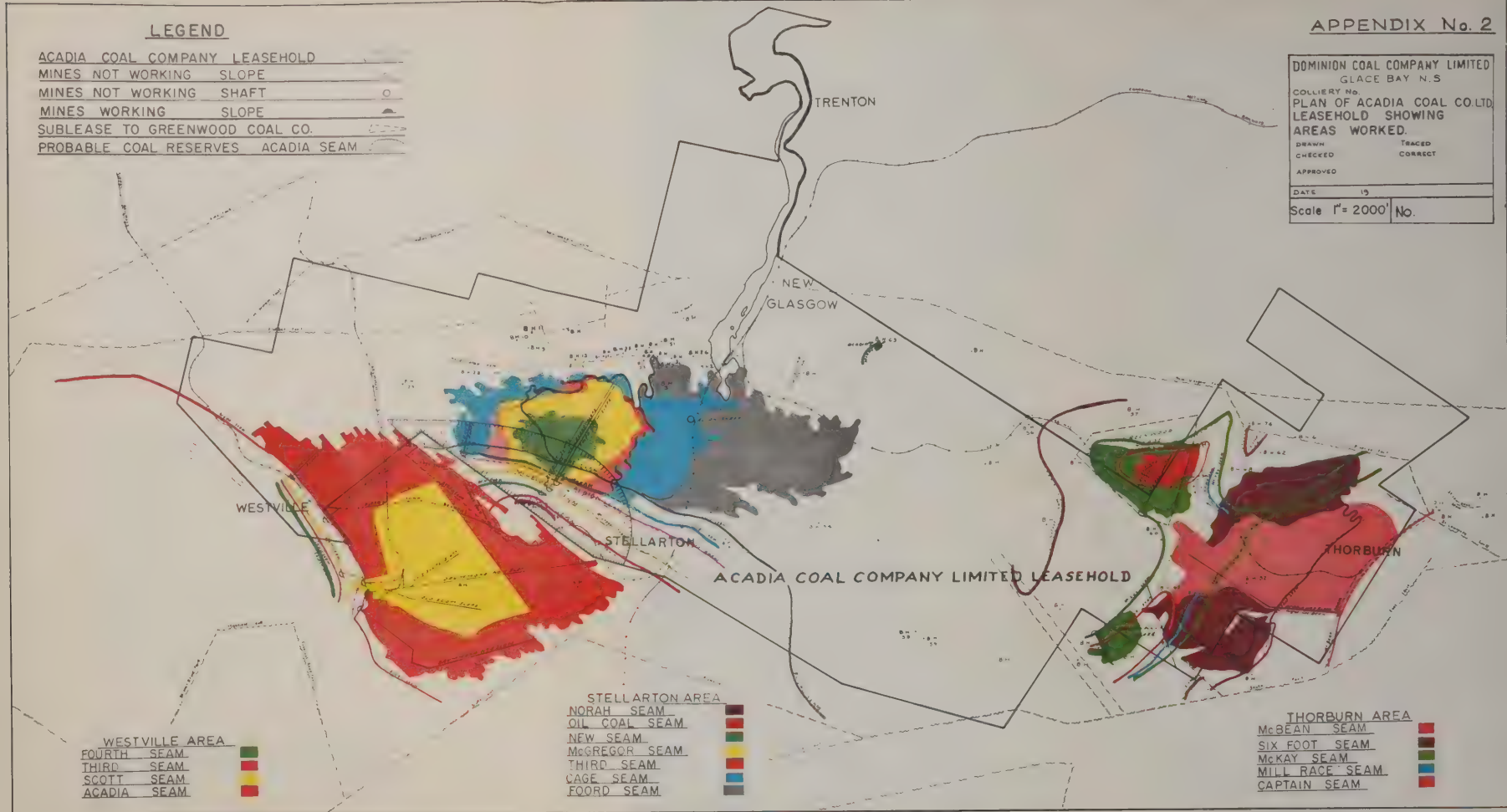
FOURTH SEAM	■
THIRD SEAM	■
SCOTT SEAM	■
ACADIA SEAM	■

STELLARTON AREA

NORAH SEAM	■
OIL COAL SEAM	■
NEW SEAM	■
MCGREGOR SEAM	■
THIRD SEAM	■
CAGE SEAM	■
FOORD SEAM	■

THORBURN AREA

McBEAN SEAM	■
SIX FOOT SEAM	■
McKAY SEAM	■
MILL RACE SEAM	■
CAPTAIN SEAM	■





# DOMINION STEEL AND COAL CORPORATION, LIMITED

## Coal Analysis

Colliery	Seam	Moist.	F.C.	V.M.	Sul.	Ash.	B.T.U.	Ash Fusion ° F.
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### Dominion Coal Company, Limited

No. 4	Phalen	1.78	54.32	33.78	4.92	11.90	13310	2020°F.
No. 12	Harbour	1.92	55.53	37.16	2.42	7.31	14140	2070
No. 16	Phalen	1.80	56.82	33.87	2.86	9.31	13590	2060
No. 18	Harbour	2.20	54.70	35.68	2.80	9.62	13710	2050
No. 20	Harbour	2.03	55.44	36.96	3.55	7.60	14100	2060
No. 26	Harbour	1.96	55.82	37.76	2.70	6.42	14320	2080
- All -		1.95	55.53	36.09	2.88	8.38	13830	2055

### Old Sydney Collieries, Limited

Princess	Harbour	2.02	53.75	35.45	2.10	10.80	13330	2080
Florence	Harbour	2.13	53.79	35.44	1.99	10.77	13380	2070
- All -		2.07	53.76	35.44	2.06	10.80	13355	2075

### Acadia Coal Company, Limited

McBean	McBean	1.59	58.90	27.72	0.53	13.38	12890	2460
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# DOMINION STEEL AND COAL CORPORATION, LIMITED

## Statement Showing Coal Reserves

Seam	<u>Long Tons</u>		Total	Economically Mineable Coal In The Probable Reserves
	Probable Reserves	Possible Reserves		
<u>Dominion Coal Company, Limited</u>				
Hub	63,000,000	141,500,000	204,500,000	51,000,000
Harbour	159,425,000	88,200,000	247,625,000	138,640,000
Phalen	132,843,000	101,100,000	233,943,000	103,370,000
Spencer	—	15,400,000	15,400,000	—
Mullins	—	24,900,000	24,900,000	—
Tracey	—	28,300,000	28,300,000	—
T o t a l s	355,268,000	399,400,000	754,668,000	293,010,000
<u>Nova Scotia Steel and Coal Company, Limited</u>				
Lloyd's Cove	—	50,900,000	50,900,000	—
Hub or Stubbart	—	74,600,000	74,600,000	—
Harbour or Sydney Main	33,427,000	29,100,000	62,527,000	26,530,000
Indian Cove or Upper Jubilee	—	4,429,000	4,429,000	—
T o t a l s	33,427,000	159,029,000	192,456,000	26,530,000
<u>Acadia Coal Company Limited</u>				
Westville Seam	—	8,000,000	8,000,000	—
McKay	—	1,100,000	1,100,000	—
McBean	3,579,000	—	3,579,000	2,830,000
T o t a l s	3,579,000	9,100,000	12,679,000	2,830,000
GRAND TOTAL	392,274,000	567,529,000	959,803,000	322,370,000

Office of Vice President, Mining Operations  
January 21, 1960

Appendix No. 4



# DISTANCE AND TRAVELLING TIME TO OR FROM WORKING PLACE

## TIME IN MINUTES

MECHANICAL TRANSPORT		WALK IN FEET		MINUTES REQUIRED IN GETTING TO OR FROM WORKING PLACE				TOTAL TIME	
Colliery	Maximum Average	Maximum Average	Maximum Average	Maximum Average	Maximum Average	Maximum Average	Maximum Average	Maximum Average	Maximum Average
<u>Dominion Coal Company, Limited</u>									
No. 4	20,100	19,050	5,800	4,300	43	37	28	80	65
12	18,500	14,800	2,000	1,300	41	38	15	56	50
16	23,050	21,350	1,600	1,400	50	47	18	68	63
18	13,530	12,330	1,550	1,550	31	28	14	45	42
20	23,700	18,500	8,300	4,800	50	38	41	91	73
26	21,600	20,600	5,300	3,800	32	31	18	50	45
Weighted Average Time	—	—	—	—	—	—	—	65.8	56.7

<u>Old Sydney Collieries, Limited</u>									
Princess	15,600	15,600	5,200	4,400	24	24	26	50	45
Florence	17,400	17,400	4,000	3,100	27	27	20	47	41
Weighted Average Time	-	-	-	-	-	-	-	48.8	43.4

<u>Acadia Coal Company Limited</u>									
McBean	10,375	8,150	1,600	1,000	40	29	10	50	39



TONS OF COAL PRODUCED AND TONS PER MAN  
PER OPERATING SHIFT

1945 to 1959 Inclusive

CALENDAR YEAR:

COLLIERY		1945	1946	1947	1948	1949	1950
<b>DOMINION COAL COMPANY</b>							
No. 1-3	Output	456926	421876	362106	591816	589187	539528
	Tons Per Man	1.38	1.36	2.15	2.18	2.17	1.90
No. 2	Output	192274	170337	108396	132559	91698	
	Tons Per Man	1.33	1.36	1.95	1.94	1.67	
No. 4	Output	402434	482394	359950	544249	541105	547713
	Tons Per Man	2.08	2.29	2.76	2.87	2.83	2.76
No. 11	Output	108454	103675	76457	104014	73211	
	Tons Per Man	1.06	0.99	1.39	1.53	1.33	
No. 12	Output	395119	496461	413336	755206	743994	762527
	Tons Per Man	1.56	1.67	2.35	2.72	2.74	2.69
No. 16	Output	502830	466099	370544	580975	631790	722087
	Tons Per Man	1.70	1.57	2.22	2.23	2.41	2.45
No. 18	Output	169880	174652	83588	111720	121860	152894
	Tons Per Man	1.45	1.45	1.75	1.94	1.80	1.85
No. 20	Output	350104	439126	362380	530538	535535	616028
	Tons Per Man	1.68	1.84	2.19	2.16	2.18	2.27
No. 24	Output	216243	201751	123340	187351	181212	193613
	Tons Per Man	1.72	1.56	1.69	1.84	1.84	1.87
No. 25	Output	72780	74676	68360	121696	131234	169363
	Tons Per Man	1.63	1.55	2.30	2.52	2.61	2.51
No. 26	Output	55634	97040	109388	183017	205040	248014
	Tons Per Man	1.52	1.56	2.27	2.46	2.86	3.08
ALL COLLIERIES	Output	2922678	3128087	2428145	3843141	3845866	3951767
	Tons Per Man	1.57	1.61	2.18	2.31	2.34	2.37
<b>OLD SYDNEY COLLIERIES</b>							
Princess	Output	351867	384411	296752	446905	438510	400835
	Tons Per Man	2.11	2.20	2.70	2.68	2.63	2.44
Florence	Output	223652	235858	170052	331587	298864	315285
	Tons Per Man	1.60	1.72	2.17	2.39	2.20	2.41
No. 7	Output						17644
	Tons Per Man						2.21
ALL COLLIERIES	Output	575519	620269	466804	778492	737374	733764
	Tons Per Man	1.88	1.99	2.48	2.55	2.43	2.38
<b>ACADIA COAL</b>							
McBean	Output						
	Tons Per Man						
Allan	Output	111194	143941	117814	188128	162815	159133
	Tons Per Man	1.01	1.25	1.77	1.83	1.94	2.01
Albion	Output	229475	226584	153103	227740	199579	231013
	Tons Per Man	1.39	1.33	1.54	1.57	1.58	1.75
No. 7	Output	24643	20439	10064			
	Tons Per Man	2.25	2.44	2.80			
ALL COLLIERIES	Output	365312	390764	280981	415868	382394	390146
	Tons Per Man	1.28	1.33	1.65	1.68	1.73	1.85
<b>CUMBERLAND RAILWAY AND COAL COMPANY</b>							
No. 1	Output	117980	131160	93425	155611	115127	144257
	Tons Per Man	1.30	1.50	1.88	2.03	1.91	2.06
No. 2	Output	265114	273615	172036	278284	278586	299821
	Tons Per Man	1.77	1.79	2.06	2.22	2.19	2.37
No. 4	Output	149069	154573	135746	195185	187311	201846
	Tons Per Man	1.25	1.40	2.08	1.93	1.75	1.79
ALL COLLIERIES	Output	532163	559348	401207	629080	581024	645924
	Tons Per Man	1.48	1.60	2.02	2.07	1.97	2.09



							7 Months Jan. 1st - July 31st	12 Months Aug. 1st - July 31st
1951	1952	1953	1954	1955	1956	1957	1958	1958 - 59

474889 1.67	421259 1.50	264009 1.55	277551 1.83	170606 2.00				
519191 2.49	517277 2.42	551420 2.40	555889 2.39	480113 2.21	476801 2.25	557876 2.76	358097 3.07	390629 3.02
741812 2.54	702582 2.35	630744 2.27	722583 2.43	706555 2.54	685570 2.63	769327 2.88	416238 2.86	537601 2.88
668661 2.15	548880 2.06	594505 2.13	600102 2.27	640954 2.57	643574 2.47	573073 2.29	285725 2.22	427001 2.41
148347 1.74	173691 1.92	203090 2.12	199538 2.10	255892 2.81	354534 3.07	330888 3.15	290604 4.24	358326 3.96
603021 2.22	537427 2.02	583085 2.16	663860 2.50	628516 2.45	693409 2.63	766355 3.01	464486 3.05	451859 2.49
190826 1.92	168814 1.83	96189 1.77						
189255 2.57	200384 2.70	203627 2.67	227426 2.92	206582 2.73	180330 2.52	157732 2.75	72990 2.80	85001 2.60
292246 3.15	299372 3.04	346010 3.36	308205 3.55	473435 3.46	656510 3.47	764070 3.72	473436 3.40	722968 3.44
3828248 2.23	3569686 2.12	3472679 2.22	3553155 2.42	3582653 2.56	3690728 2.69	3919321 2.92	2361576 3.04	2973385 2.95

411860 2.57	372530 2.25	397147 2.31	381057 2.28	390519 2.26	383549 2.34	455912 2.77	291952 2.78	415071 2.90
290118 2.11	249881 1.81	317022 2.18	323515 2.27	311912 2.13	293607 2.11	302805 2.15	184870 2.17	214363 1.93
16947 1.96	41224 3.56	33693 3.78	29412 4.41	27298 4.35	6112 1.96			
718925 2.35	663635 2.10	747862 2.29	733984 2.32	729729 2.24	683268 2.23	758717 2.49	476822 2.51	629434 2.47

		21358 2.08	180919 2.23	194438 2.11	209401 2.04	182327 2.00	130516 2.44	198314 2.30
81951 1.70								
248367 1.88	238962 1.89	246936 2.11	211844 2.32	121758 1.88	154800 2.10	8329 1.90		
330318 1.83	238962 1.89	268294 2.10	392763 2.27	316176 2.01	364201 2.07	190656 2.00	130516 2.44	198314 2.30

155978 2.13	159148 2.17	134441 1.81	81552 1.91					
279898 2.22	276257 2.16	258896 2.02	340104 2.16	409397 2.26	342938 1.99	385351 2.10	225807 2.12	65110 2.04
232422 2.01	225992 1.84	222995 1.89	223968 1.88	265546 2.08	205170 1.92			
668298 2.12	661397 2.04	616332 1.93	645624 2.02	674943 2.18	548108 1.96	385351 2.10	225807 2.12	65110 2.04



AVERAGE OUTPUT PER MAN PER DAY IN  
BITUMINOUS UNDERGROUND MINES IN U.S.

YEARS 1945 - 1958 INCLUSIVE

<u>Year</u>	<u>Net Tons (2,000#)</u>
1945	5.04
1946	5.43
1947	5.49
1948	5.31
1949	5.42
1950	5.75
1951	6.08
1952	6.37
1953	7.01
1954	7.99
1955	8.28
1956	8.62
1957	8.91
1958	9.38

Source: U.S. Bureau of Mines



STATEMENTS SHOWING OUTPUTS AND  
CAPACITY OUTPUTS OF COLLIERIES

<u>Dominion Coal</u>	<u>Average Daily Output 1959</u>	<u>Present Daily Output Capacity</u>	<u>Possible Daily Output Capacity</u>
No. 4	2448	2372	3000
12	3163	3554	3800
16	2681	2772	3000
18	1875	2490	2800
20	2695	3924	4500
25	489	-	-
26	3551	4130	5000
<hr/>			
<u>Old Sydney Collieries</u>			
Princess	2147	2582	4000
Florence	1140	1405	1300
<hr/>			
<u>Acadia Coal</u>			
McBean	861	901	1000
<hr/>			
T O T A L	21,050	24,130	28,400
<hr/>			



DOMINION STEEL AND COAL CORPORATION, LIMITED  
COAL OPERATIONS

Absenteeism Based on Calendar Year 1959

PERCENT OF ABSENTEEISM:-

PERCENT OF ABSENTEEISM:-	UNAVOIDABLE				AVOIDABLE				TOTAL %	
	TOTAL %	Compensation %	Sick %	Permission %	TOTAL %	Without Permission %	Refused Work Offered %	Tieups %		Action Fellow Employees %
SURFACE										
Dominion Coal Company Limited	6.85	- 1.07	2.39	.03	3.49	3.30	-	.06	-	3.36
Old Sydney Collieries	5.04	.54	2.40	.01	2.95	2.01	.08	-	-	2.09
Acadia Coal Company	5.60	1.90	1.10	.20	3.20	.80	-	1.40	.20	2.40
TOTAL	6.46	1.03	2.31	.04	3.38	2.93	.01	.13	.01	3.08
PRODUCERS										
Dominion Coal Company, Limited	14.46	3.98	2.97	.03	6.98	7.39	-	.09	-	7.48
Old Sydney Collieries	12.62	2.14	2.55	.03	4.72	7.43	.47	-	-	7.90
Acadia Coal Company	12.20	5.30	1.90	.20	7.40	2.30	-	2.20	.30	4.80
TOTAL	13.93	3.77	2.80	.04	6.61	6.95	.08	.26	.03	7.32
LONGWALL MAINTENANCE										
Dominion Coal Company Limited	16.87	4.39	3.75	.02	8.16	8.59	-	.12	-	8.71
Old Sydney Collieries	10.07	1.48	2.58	-	4.06	5.83	.18	-	-	6.01
Acadia Coal Company	19.80	6.10	4.80	.30	11.20	5.40	-	2.80	.40	8.60
TOTAL	15.47	3.81	3.53	.03	7.37	7.85	.04	.20	.01	8.10
OTHERS UNDERGROUND										
Dominion Coal Company, Limited	13.30	2.93	3.17	.04	6.14	7.10	-	.06	-	7.16
Old Sydney Collieries	10.60	1.60	2.65	.03	4.28	6.09	.23	-	-	6.32
Acadia Coal Company	12.70	3.20	3.10	.30	6.60	3.30	-	2.50	.30	6.10
TOTAL	12.72	2.70	3.06	.05	5.81	6.61	.04	.23	.03	6.91
ALL EMPLOYEES										
Dominion Coal Company Limited	13.41	3.19	3.16	.03	6.38	6.96	-	.07	-	7.03
Old Sydney Collieries	10.19	1.55	2.59	.01	4.15	5.80	.24	-	-	6.04
Acadia Coal Company	12.70	4.00	2.80	.20	7.00	3.00	-	2.30	.40	5.70
TOTAL	12.73	2.92	3.02	.04	5.98	6.46	.05	.22	.02	6.75

Appendix No. 9





DOMINION STEEL AND COAL CORPORATION, LIMITED

PENSION FUND

RULES AND REGULATIONS

1923



# DOMINION STEEL AND COAL CORPORATION, LIMITED

## PENSION FUND

Employees of the Dominion Steel and Coal Corporation, Limited, or of any of its constituent companies or of any other company or corporation a majority of the capital stock of which is owned or controlled by the Dominion Steel and Coal Corporation or by any of its constituent or subsidiary companies, may obtain pensions under the following conditions which are adopted for the regulation of the Dominion Steel and Coal Corporation, Limited Pension Fund.

The Fund being established voluntarily by the Corporation as a provision for the benefit of employees superannuated or incapacitated after long service, constitutes no contract and confers no legal rights upon any employee.

Whenever in these regulations the following terms are used they shall have the meanings set opposite each of them respectively:

Corporation	Shall mean the Dominion Steel and Coal Corporation, Limited.
Board	Shall mean the Board of Directors of the Corporation.
Pension Committee	Shall mean the Committee pointed by the President for the administration of the fund.
Service	Shall mean employment by the Dominion Steel and Coal Corporation or by any corporation or company the majority of the capital stock of which is owned by the Corporation or the constituent Companies or their subsidiaries.

### ADMINISTRATION

The fund shall be administered by a Committee to be known as the Pension Committee.

The Committee shall from time to time report all actions and decisions to the President for confirmation, but subject to such confirmation or to any modification that may be made by the President, all actions and decisions of the Committee shall take effect as from the date of the action or decision of the Committee.

The Committee shall make rules for the efficient administration of the Fund, which upon approval by the President, shall determine its procedure in all cases.



The Committee shall have power:

- (a) To determine the eligibility of employees to receive pensions.
- (b) To fix the amount of such pensions.
- (c) To discontinue payment of pensions for cause.

### PENSIONS

Pensions shall be granted:

1. To any male employee who has been twenty-five years in the service and who has reached the age of sixty-five years or more and who is retired from service either at his own request or the request of his employing officer.
2. To any female employee who has been twenty-five years in the service and has reached the age of fifty-five years or more, and who is retired from service either at her own request or the request of her employing officer.
3. To any employee who has been fifteen years in the service and who during the course of his employment through an accident has become permanently and totally incapacitated for further service.
4. The President of the Corporation may in his discretion instruct and direct the Committee to include in the Pension Scheme employees whose length of service has not reached the limits above provided for, or employees who may for other reasons be ineligible for pensions under these regulations.

### AMOUNT OF PENSIONS

The amount of pensions which shall be paid monthly to persons retired under the provisions of the fund shall be at the rate of one per cent of the average monthly pay received by them during the last ten years of their service multiplied by the number of years of their entire service.

Illustration: An employee has been in the service 30 years and during the last ten years has received \$1000 per annum or \$83.33 per month. His monthly pension would be one per cent of \$83.33 or \$0.83 multiplied by 30, equal to \$25.00.

Provided, however, that no pension shall be more than \$75.00 per month.



## GENERAL REGULATIONS

1. Pensions from the fund will be paid only to those employees who have given their entire time to the service of corporation included under the provisions of the fund.
2. The acceptance of a pension from the fund shall not bar any retired employee from engaging in other business as long as such other business is not of the same character as that of the Corporation or its constituent or subsidiary Companies.
3. Length of service shall be reckoning from the date since which the employee has been continuously in the service to the date when retired.
4. Up to and not exceeding two (2) years out of service shall not be considered as breaks in the continuity of service, but the time thus lost shall be deducted in reckoning the length of service.
5. Pensions shall be paid to the pensioners, at the close of each month after the date of commencement, which shall be fixed in each case by the Committee, and until revoked by the Committee or until the month succeeding that in which the death of the pensioner occurs.
6. Pensions may be suspended or terminated in case of misconduct on the part of the pensioner or for any other cause sufficient in the judgment of the Committee to warrant such action.
7. In order that direct personal relations with retired employees may be preserved and that such employees may continue to enjoy the benefits of pensions granted them, no assignment of pensions will be permitted or recognized under any circumstances; neither shall pensions be subject to attachment or other legal process for debts of the beneficiaries.
8. The decision of the Committee determining the rights of employees under these regulations shall be final subject to a right of appeal to the President, provided notice of appeal is given within thirty days of the date of the action of the committee against which the appeal is made.

The decision of the Board shall be final and conclusive.
9. Neither the creation of this fund nor any other action at any time taken by the Board of Directors of the President shall give to any employee a right to be retained in the service, and all employees remain subject to discharge to the same extent as if this Pension Fund had never been created.
10. The pension fund and the regulations respecting it may be amended or repealed at any time by the Board of Directors at its discretion.





## RULES AND REGULATIONS

1. A Chairman shall be appointed by the Pension Committee to preside at all meetings of the Committee.

A secretary shall be appointed who shall have charge of the records of the Pension Fund. It shall be his duty to keep himself informed of the whereabouts of all employees who have been retired from the service, and he shall require satisfactory evidence from each of such employees at least once a year that he still comes within the rules of the Pension Fund.

2. The office of the Pension Fund shall be at Sydney.

3. All communications should be addressed to the Secretary, Pension Fund, or Superintendent.

Other meetings may be held if necessary at the call of the Superintendent.

## SUGGESTIONS FOR APPLICATION OF PENSION RULES

The officer in charge of the Staff Records of the Corporation shall report to the ranking officer of the Company concerned the names of all employees who will attain during the ensuing six months the requisite age for a pension allowance.

Those names will be submitted to the Management of the Company concerned, and he will be asked to indicate whether the men are still capable of further efficient service or whether in his opinion they should be retired on pension.

If the Management of the Company concerned considers that the men are eligible for pension, he will have a form completed and returned to the ranking officer of the Company, who, when the forms are approved will forward them to the Secretary of the Pension Committee.

Wherever possible the Service Record should be certified from the time records. If, however, the time records are not complete, efforts should be made to establish the term or terms of service through old officials or old trustworthy employees. In the absence of records, in case the employee claims service for a greater length of time than can be established through old officials or employees, the employing officer should make recommendations, based upon the facts which the



employee can offer in substantiation of his claims, and upon his reliability whether the whole time claimed should be allowed, or, if not, what portions thereof. In the event of doubt as to what service to allow an employee, the employing officer should certify to what he feels it proper to allow, and state the facts, by letter attached to the form, and the Pension Committee will decide the question. This letter shall be attached to and become part of the pension report.

Pay rolls covering all pension allowances, showing the names and such other particulars as are necessary of those to whom such allowances have been made and the amount of such allowances, shall be prepared at the close of each month by the Secretary of the Pension Fund; shall be certified by him; shall be countersigned by at least one member of the Committee, and shall be forwarded to the Comptroller's Department for payment.

When we calculate pensions to individuals based on our present Pension Plan, who have reached their 70th birthday, the \$40.00 paid by the Government will be deducted, the Company paying the net result. However, in no case will the Company pension be reduced under \$25.00 per month.

The pension of any individual of less age than 70 years will be calculated and paid, based on our present Pension Plan, the amount to which he is entitled until the age of 70 years, at which time the \$40.00 will be deducted. However, in no case will the Company pension be less than \$25.00 per month.



ACADIA COAL

PENSIONERS

<u>YEAR</u>	<u>NUMBER OF PENSIONERS AT YEAR'S END</u>	<u>AVERAGE MONTHLY PENSION</u>	<u>AVERAGE ANNUAL PENSION</u>	<u>ANNUAL EXPENDITURES ON PENSIONS</u>
1945	3	\$ 85.00	\$ 1,020.00	\$ 3,060.00
1946	2	96.54	1,158.48	2,510.00
1947	99	39.35	472.20	25,065.41
1948	109	44.75	537.00	56,608.40
1949	122	46.05	552.60	63,927.90
1950	118	47.51	570.12	69,889.50
1951	139	48.38	580.56	75,035.25
1952	142	50.07	600.84	87,380.50
1953	167	51.15	613.80	92,800.40
1954	163	52.68	632.16	102,616.00
1955	162	52.26	627.12	101,378.75
1956	165	51.93	623.16	100,234.15
1957	171	53.62	643.44	109,976.65
1958	183	52.78	633.36	106,631.00
1959	168	52.08	624.96	109,061.00



OLD SYDNEY COLLIERIES

PENSIONERS

<u>YEAR</u>	<u>NUMBER OF PENSIONERS AT YEAR'S END</u>	<u>AVERAGE MONTHLY PENSION</u>	<u>AVERAGE ANNUAL PENSION</u>	<u>ANNUAL EXPENDITURES ON PENSIONS</u>
1945	-	-	-	-
1946	95	\$ 37.96	\$ 455.52	\$ 16,890.50
1947	166	41.02	492.24	68,003.26
1948	175	44.72	536.64	91,577.14
1949	180	46.14	553.68	98,316.90
1950	190	48.19	578.28	109,864.00
1951	204	50.39	604.68	120,083.76
1952	212	52.12	625.44	130,988.40
1953	224	53.32	639.84	136,918.15
1954	237	52.92	635.04	145,481.25
1955	242	53.53	642.36	156,634.95
1956	255	54.07	648.84	161,821.25
1957	253	53.71	644.52	160,315.90
1958	249	52.59	631.08	157,413.50
1959	241	52.03	624.36	151,882.50

Sydney, N.S.,  
January 29, 1960.

Appendix No. 10 - Pg. 7





CUMBERLAND RAILWAY & COAL COMPANY

PENSIONERS

<u>YEAR</u>	<u>NUMBER OF PENSIONERS AT YEAR'S END</u>	<u>AVERAGE MONTHLY PENSION</u>	<u>AVERAGE ANNUAL PENSION</u>	<u>ANNUAL EXPENDITURES ON PENSIONS</u>
1945	37	\$ 44.59	\$ 535.08	\$ 21,537.70
1946	29	48.14	577.68	18,824.00
1947	160	46.75	561.00	55,014.52
1948	164	45.40	544.80	92,449.75
1949	173	45.60	547.20	95,799.25
1950	181	46.75	561.00	100,523.75
1951	184	48.08	576.96	105,958.50
1952	184	48.83	585.96	108,559.75
1953	177	49.12	589.44	105,747.75
1954	178	49.36	592.32	106,031.75
1955	182	49.55	594.60	107,374.75
1956	186	49.37	592.44	109,648.38
1957	220	50.48	605.76	120,646.75
1958	243	53.69	644.28	144,042.75
1959	231	52.66	631.92	150,387.25

Sydney, N.S.  
January 29, 1960.

Appendix No.10 - Pg. 8



SYDNEY & LOUISBURG RAILWAY COMPANY

PENSIONERS

<u>YEAR</u>	<u>NUMBER OF PENSIONERS AT YEAR'S END</u>	<u>AVERAGE MONTHLY PENSION</u>	<u>AVERAGE ANNUAL PENSION</u>	<u>ANNUAL EXPENDITURES ON PENSIONS</u>
1945	-	-	-	-
1946	-	-	-	-
1947	-	-	-	-
1948	-	-	-	-
1949	-	-	-	-
1950	74	\$ 59.97	\$719.64	\$ 50,256.25
1951	73	60.64	727.68	51,845.50
1952	72	61.63	739.56	52,695.50
1953	77	63.65	763.80	56,525.75
1954	82	62.81	753.72	60,042.27
1955	83	61.32	735.84	63,163.37
1956	77	60.93	731.16	58,917.87
1957	79	60.41	724.92	56,183.12
1958	76	59.86	718.32	55,672.54
1959	82	59.82	717.84	56,528.50

The information for the Sydney & Louisburg Railway Company for the years 1945 to 1949 is included in the Dominion Coal Company, Limited figures for these years.



DOMINION COAL COMPANY, LIMITED

PENSIONERS

<u>YEAR</u>	<u>NUMBER OF PENSIONERS AT YEAR'S END</u>	<u>AVERAGE MONTHLY PENSION</u>	<u>AVERAGE ANNUAL PENSION</u>	<u>ANNUAL EXPENDITURES ON PENSIONS</u>
1945	341	\$ 41.35	\$ 496.20	\$ 160,782.68
1946	325	42.20	506.40	164,053.25
1947	988	46.25	555.00	361,805.46
1948	1,023	46.45	557.40	571,267.98
1949	1,041	47.60	571.20	604,621.97
1950	1,024	48.13	577.56	603,910.61
1951	1,070	49.84	598.08	637,637.35
1952	1,108	51.20	614.40	671,141.75
1953	1,131	52.34	628.08	706,275.35
1954	1,174	52.78	633.36	726,923.81
1955	1,206	53.86	646.32	781,263.29
1956	1,257	54.34	652.08	814,097.64
1957	1,263	54.53	654.36	820,669.63
1958	1,283	54.45	653.40	831,944.46
1959	1,283	54.44	653.28	839,733.75

NOTE: Included in the Dominion Coal Company figures above for the years 1945 to 1949 (incl.) are the Dominion Shipping Company, the Sydney & Louisburg Railway and the Seaboard Power Corporation.

However during these years the Dominion Shipping and Seaboard pensioners never numbered more than 6.



# SUMMARY OF ADDITIONS TO FIXED ASSETS FOR THE YEARS 1945 to 1959 INCLUSIVE

<u>Items</u>	<u>Mechanization Government Loan</u>	<u>Mechanization Company Account</u>	<u>Improvements</u>	<u>Other Capital</u>	<u>Totals</u>
<u>Dominion Coal Company</u>					
Mechanization Project - Government Loan:					
Diesel Locomotives	\$1,432,136				\$1,432,136
Aluminum Mine Cars	1,349,663				1,349,663
Continuous Miners	4,610,172				4,610,172
Joy Loaders	1,211,937				1,211,937
Tunnels to Harbour Seam	1,244,929				1,244,929
Wash Plant	589,469				589,469
Other	43,319				43,319
Total Mechanization	<u>\$10,481,625</u>				<u>\$10,481,625</u>
Other Capital Equipment:					
Continuous Miner (Experimental & Eng.)		\$ 161,681			\$ 161,681
Mechanization other than Mech. Loan		978,852			978,852
Car and Electrical Repair Shop				\$ 250,172	250,172
Main Hoist Installation - No.1-B Colliery				148,199	148,199
Steel Mine Cars				546,420	546,420
Sydney Mines Loaders			\$ 412,510		412,510
Electrification of Surface Hoists			642,608		642,608
Railway Equipment (Cars & Locos.)				2,104,412	2,104,412
Coal crane and tractor - Three Rivers Agcy.				92,825	92,825
Coal Bridge - Halifax Agcy.				100,000	100,000
Barge "Salvus"				79,673	79,673
Tug "Empire John"				138,394	138,394
Dwellings				47,300	47,300
Other - excluding mechanization				3,844,826	3,844,826
Total Excluding Mechanization		<u>\$1,140,533</u>	<u>\$1,055,118</u>	<u>\$7,352,221</u>	<u>\$9,547,872</u>
Total Dominion Coal Company:	\$10,481,625	\$1,140,533	\$1,055,118	\$7,352,221	\$20,029,497





Items	Mechanization Government		Mechanization Company		Improvements	Other Capital		Totals
	Loan		Account					
<u>Old Sydney Collieries</u>								
Mechanical Loading Equip. (Princess)		\$	120,988					\$ 120,988
Continuous Miners and Installations			1,192,536					1,192,536
Central Coal Cleaning Plant			977,593					977,593
Preparation for Tunnel - Princess			1,862,464					1,862,464
Wash House North Sydney Pier						\$	27,087	27,087
Locomotives			269,463				62,979	332,442
Sydney Mines Loaders				\$	83,404			83,404
Relay Haulage Installation							97,094	97,094
Electrification of Haulage Engines					40,002			40,002
Transformers							55,224	55,224
Equipment for Drying Slurry					48,476			48,476
Tipple and Dust Control and Car Handling								
Facilities Underground			87,676					87,676
Rope Belt Conveyor			173,859					173,859
Conveyor Installations (Surface)					49,767			49,767
Bankhead					164,371			164,371
3-Ton Aluminum Mine Cars			384,147					384,147
Development of Return Airway					386,740			386,740
Fine Coal Screens and Conveyors					25,836			25,836
Central Heating Plant					43,465			43,465
Steel Roof Jacks					75,817			75,817
Miscellaneous							281,018	281,018
<hr/>								
Total Old Sydney Collieries:		\$	\$5,068,726	\$	917,878	\$	523,402	\$ 6,510,006



DOMINION COAL COMPANY LIMITED  
NUMBER OF MEN EMPLOYED BY CATEGORY  
AT DECEMBER 31, 1959

		<u>NUMBER EMPLOYED</u>
<u>COLLIERIES</u>		
Surface	594	
Underground	3,609	
Mining	<u>1,012</u>	5,215
<u>AUXILIARY DEPARTMENTS</u>		
Shops	241	
Construction	34	
Transportation	11	
Electrical	48	
Property	26	
New Waterford Construction	15	
Warehouse	20	
Piers	<u>202</u>	597
<u>TERMINALS</u>		
Montreal	69	
Three Rivers	16	
Halifax	<u>9</u>	94
<u>SALARIED EMPLOYEES</u>		836
TOTAL		<u>6,742</u>
<u>SYDNEY &amp; LOUISBOURG RAILWAY COMPANY</u>		412
TOTAL		<u>7,154</u>



OLD SYDNEY COLLIERIES  
NUMBER OF MEN EMPLOYED BY CATEGORY  
AT DECEMBER 31, 1959

COLLIERIES

Surface	119	
Underground	841	
Mining	229	
	<hr/>	1,189

AUXILIARY DEPARTMENTS

Railway	21	
Banking Station	31	
Pier	53	
Washplant	49	
Mechanical and Electrical	<hr/> 63	217

<u>SALARIED EMPLOYEES</u>	164
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TOTAL EMPLOYED	<hr/> <hr/> 1,570
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ACADIA COAL  
NUMBER OF MEN EMPLOYED BY CATEGORY  
AT DECEMBER 31, 1959

	NUMBER <u>EMPLOYED</u>	
<u>COLLIERY</u>		
Surface	39	
Underground	258	
Mining	85	
	<hr/>	382
 <u>AUXILIARY DEPARTMENTS</u>		
Washplant	9	
Power Plant	3	
Railway	9	
Mechanical and Electrical	13	34
	<hr/>	
SALARIED EMPLOYEES		50
		<hr/>
<u>TOTAL</u>		<u>466</u>





NUMBER OF MEN EMPLOYED

AT DECEMBER 31, 1959

SUMMARY

Dominion Coal Company, Limited	7,154
Old Sydney Collieries, Limited	1,570
Acadia Coal Company Limited	466
	<hr/>
Total:	<hr/> <u>9,190</u> <hr/>



# DOMINION COAL COMPANY, LIMITED

## AGE DISTRIBUTION OF PERSONNEL EMPLOYED

AT DECEMBER 31, 1959

Age	Collieries	Auxiliary Departments	Agencies	Salaried Employees	Sydney & Louisburg Railway Company	Total
18				2	1	3
19	48	4		4	4	60
20	64	4	1	9	7	85
21	133	7	1	10	2	153
22	158	11		5	11	185
23	138	14	2	17	5	176
24	116	6	4	13	10	149
25	111 — 14.7%	10	1	11	10	143 — 13.3%
26	106	16	2	6	13	143
27	117	11		12	14	154
28	150	12	2	9	5	178
29	103	11	2	7	9	132
30	107 — 25.9%	24	1	4	22	158 — 24.0%
31	108	13	2	16	14	153
32	88	9	1	11	15	124
33	124	11	5	10	11	161
34	108	11	3	15	9	146
35	138 — 36.8%	6	2	13	10	169 — 34.6%
36	112	8	1	16	9	146
37	118	13	6	20	9	166
38	122	7	3	15	8	155
39	107	4	3	22	7	143
40	119 — 47.8%	11	3	12	12	157 — 48.3%
41	119 — MEAN	17		13	5	154
42	128	10		17	13	168 — 49.1%
43	122	9	3	18	6	158
44	101	12	3	21	7	144
45	120 — 59.2%	8	2	20	9	159 — 56.2%
46	148	12		22	5	187
47	122	12	3	33	5	175
48	145	12	2	38	5	202
49	127	15	1	24	7	174
50	118 — 71.8%	24	2	31	6	181 — 69.1%



Age	Collieries	Auxiliary Departments	Agencies	Salaried Employees	Sydney & Louisburg Railway Company	Total
51	110	18	3	34	10	175
52	132	18	3	25	10	188
53	120	14	2	28	5	169
54	108	18	3	27	9	165
<u>55</u>	<u>99</u> 82.7%	26	1	20	14	<u>160</u> 81.9%
56	113	17	2	24	6	162
57	104	17	1	15	8	145
58	95	18	3	20	8	144
59	96	15	1	19	5	136
<u>60</u>	<u>101</u> 92.5%	12	3	18	8	<u>142</u> 91.2%
61	57	10	2	17	3	89
62	58	10		14	6	88
63	63	8		12	4	87
64	75	9	1	13	4	102
<u>65</u>	<u>61</u> 98.5%	5		13	4	<u>83</u> 97.5%
66	35	7	1	7	6	56
67	17	6	5	6	6	40
68	12	3		6	2	23
69	5	4		3	1	13
<u>70</u>	<u>4</u>	2		6	6	18
71		3		4	2	9
72	2	1		1		4
73	1	1		2		4
74	1			2		3
75			1	2		3
76	1			1		2
77				1		1
78			1			1
80		1				1
<b>TOTAL</b>	<b>5,215</b>	<b>597</b>	<b>94</b>	<b>836</b>	<b>412</b>	<b>7,154</b>



# OLD SYDNEY COLLIERIES

## Age Distribution of Personnel Employed

At December 31, 1959

<u>Age</u>	<u>Collieries</u>	<u>Auxiliary Department</u>	<u>Salaried Employees</u>	<u>Total</u>
19	8	1	1	10
20	29	1	1	31
21	33	2	2	37
22	23	9	—	32
23	29	4	2	35
24	37	2	2	41
<u>25</u>	<u>34</u> 16.2%	6	1	<u>41</u> 14.5%
26	34	6	1	41
27	22	7	1	30
28	42	2	—	44
29	21	4	2	27
<u>30</u>	<u>34</u> 29.1%	2	1	<u>37</u> 25.9%
31	19	2	1	22
32	17	3	2	22
33	21	3	—	24
34	35	6	3	44
<u>35</u>	<u>27</u> 39.1%	2	1	<u>30</u> 34.9%
36	28	6	2	36
37	42	3	2	47
38	38	2	3	43
39	24 <del>MEAN</del>	1	1	26
<u>40</u>	<u>30</u> 52.7%	7	5	<u>42</u> 47.3%
41	30	8	3	41 <del>MEAN</del>
42	30	6	5	41
43	28	5	2	35
44	26	4	6	36
<u>45</u>	<u>26</u> 64.5%	6	1	<u>33</u> 59.1%
46	21	6	6	33
47	18	7	6	31
48	27	11	3	41
49	28	5	7	40
<u>50</u>	<u>27</u> 74.7%	4	5	<u>36</u> 70.6%
51	21	8	7	36
52	18	3	6	27
53	22	10	11	43
54	20	7	3	30
<u>55</u>	<u>24</u> 83.5%	6	8	<u>38</u> 81.7%
56	18	2	4	24
57	13	1	3	17
58	20	3	4	27
59	12	1	7	20





<u>Age</u>	<u>Collieries</u>	<u>Auxiliary Department</u>	<u>Salaried Employees</u>	<u>Total</u>
<u>60</u>	<u>24</u> <i>90.8%</i>	4	2	<u>30</u> <i>8% 20</i>
61	13	1	2	16
62	17	3	2	22
63	12	4	4	20
64	15	6	1	22
<u>65</u>	<u>13</u> <i>96.6%</i>	3	1	<u>17</u> <i>95.4%</i>
66	8	3	8	19
67	8	—	3	11
68	6	2	2	10
69	6	1	1	8
70	4	2	3	9
71	5	2	1	8
72	1	1	1	3
73	1	—	1	2
77	—	1	—	1
78	—	—	1	1

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T O T A L	1189	217	164	1570
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# ACADIA COAL

## Age Distribution of Personnel Employed

At December 31, 1959

Age	Number Employed			Total
	Collieries	Auxiliary Departments	Salaried Employees	
22	1			1
23	3			3
24	1			1
<u>25</u>	<u>2</u> 1.8%			<u>2</u> 1.5%
26	6			6
27	6			6
28	5			5
29	6			6
<u>30</u>	<u>4</u> 8.9%		1	<u>5</u> 7.5%
31	6			6
32	9			9
33	3			3
34	7		2	9
<u>35</u>	<u>10</u> 18.1%	1	1	<u>12</u> 15.9%
36	10		1	11
37	5	1	2	8
38	11	1	3	15
39	12		1	13
<u>40</u>	<u>11</u> 30.9%	2	3	<u>16</u> 29.4%
41	15	2	1	18
42	13	2	1	16
43	11			11
44	9		1	10
<u>45</u>	<u>15</u> 47.4%	3	2	<u>20</u> 45.5%
46	10	1	—	11
47	11	1	3	15
48	12		1	13
49	13		4	17
<u>50</u>	<u>15</u> 63.4%	1	3	<u>19</u> 61.6%
51	15	2	3	20
52	13	3	1	17
53	8	3	2	13
54	10	1	1	12
<u>55</u>	<u>19</u> 80.4%		1	<u>20</u> 79.2%
56	8	1	1	10
57	8	1	1	10
58	15	1	1	17
59	4	1		5
<u>60</u>	<u>6</u> 91.1%		1	<u>7</u> 89.7%
61	10	1	3	14
62	2	2	3	7
63	5			5
64	6			6
<u>65</u>	<u>3</u> 97.9%	3		<u>6</u> 97.9%
66	2		1	3
67	2			2
68	3			3
70	1			1
71			1	1
TOTAL	382	34	50	466



DOMINION COAL COMPANY, LIMITED

MARITAL STATUS OF PERSONNEL EMPLOYED

AT DECEMBER 31, 1959

	<u>Married</u>	<u>Single</u>	<u>Total</u>
<u>COLLIERIES</u>	3,826	1,389 <i>26.6%</i>	5,215
<u>AUXILIARY DEPARTMENTS</u>			
Shops	184	57	241
Construction	29	5	34
Transportation	9	2	11
Electrical	28	20	48
Property	20	6	26
New Waterford Construction	10	5	15
Warehouse	17	3	20
Piers	151	51	202
<u>TERMINALS</u>			
Montreal	54	15	69
Three Rivers	13	3	16
Halifax	8	1	9
<u>SALARIED EMPLOYEES</u>	689	147 ( <i>17.6%</i> )	836
<u>TOTAL</u>	5,038	1,704 <i>25.3%</i>	6,742
<u>SYDNEY AND LOUISBURG</u>	341	71 <i>17.2%</i>	412
<u>TOTAL</u>	5,379	1,775 <i>24.8%</i>	7,154



OLD SYDNEY COLLIERIES

MARITAL STATUS OF PERSONNEL EMPLOYED

AT DECEMBER 31, 1959

	<u>Married</u>	<u>Single</u>	<u>Total</u>
<u>COLLIERIES</u>	1012	177 14.4%	1189
<u>AUXILIARY DEPARTMENTS</u>			
Railway	21	—	21
Banking Station	18	13	31
Pier	51	2	53
Washplant	40	9	49
Mechanical and Electrical	50	13	63
<u>SALARIED EMPLOYEES</u>	148	16 9.8%	164
<u>T O T A L</u>	1340	230 14.6%	1570





ACADIA COAL

MARITAL STATUS OF PERSONNEL EMPLOYED

AT DECEMBER 31, 1959

	<u>Married</u>	<u>Single</u>	<u>Total</u>
<u>COLLIERY</u>	342	40 10.5%	382
<u>AUXILIARY DEPARTMENTS</u>			
Washplant	7	2	9
Power Plant	3	—	3
Railway	9	—	9
Mechanical and Electrical	9	4	13
<u>SALARIED EMPLOYEES</u>	48	2 4.0%	50
TOTAL	418	48 10.3%	466



# DOMINION COAL COMPANY, LIMITED

The average pay (both total and take home) by hour (for datal employee's)  
day (for contract employee's), week month and year of Colliery and

Auxiliary Department employee's  
(based on the year 1959)

	Average Hourly Pay	Average Daily Pay	AVERAGE WEEKLY PAY		AVERAGE MONTHLY PAY		AVERAGE YEARLY PAY	
			Total	Take Home	Total	Take Home	Total	Take Home
Colliery - datal	\$ 1.61	\$	\$ 69.55	\$ 55.26	\$ 243.42	\$ 193.41	\$ 3,092.27	\$ 2,492.09
Colliery - contract		19.52	87.84	73.55	307.44	257.43	3,860.45	\$ 3,260.27
Auxiliary Departments:								
Construction	1.56		68.45	53.69	296.61	232.65	3,559.30	2,791.78
Transportation	1.56		86.28	71.52	373.89	309.93	4,486.65	3,719.13
Electrical	1.70		63.55	48.79	275.40	211.44	3,304.83	2,537.31
Property	1.54		50.26	35.50	217.81	153.85	2,613.75	1,846.23
Shops	1.66		59.56	46.34	258.09	200.80	3,097.08	2,409.64
New Waterford	1.53		58.77	47.18	254.69	204.47	3,056.31	2,453.63
Construction								
Warehouse	1.49		53.95	39.19	233.79	169.83	2,805.50	2,037.98
International Pier	1.54		75.20	65.37	325.87	283.27	3,910.44	3,399.28
" - shippers		13.28	70.19	60.36	303.92	261.36	2,597.12	2,233.41
" - trimmers		14.11	77.30	67.47	334.71	292.15	2,860.04	2,496.33

## NOTE:

- (1) Average incentive bonus included above
- (2) The average monthly and yearly pay is adversely affected by the cutback in operations at the collieries which amounted to an average of 43.1 days during the year 1959.



# OLD SYDNEY COLLIERIES

The average pay (both total and take home) by hour (for datal employees)  
day (for contract employees), week, month and year of Colliery and

Auxiliary Department Employee's

(based on the year - 1959)

	Average Hourly Pay	Average Daily Pay	AVERAGE WEEKLY PAY		AVERAGE MONTHLY PAY		AVERAGE YEARLY PAY	
			Total	Take Home	Total	Take Home	Total	Take Home
<u>Colliery - datal</u>	\$ 1.59	\$	\$ 65.99	\$ 52.75	\$ 241.96	\$ 193.41	\$ 3,068.97	\$ 2,486.41
<u>Colliery - contract</u>		17.73	86.88	73.64	318.56	270.01	3,988.13	3,405.57
<u>Auxiliary Departments:</u>								
Mechanical and electrical	1.65		66.97	52.05	290.23	225.58	3,482.83	2,706.99
Banking station	1.58		56.31	45.01	244.02	195.06	2,928.26	2,340.66
Wash plant	1.62		66.46	53.63	288.02	232.43	3,456.24	2,789.08
Railway	1.72		71.82	57.62	311.24	249.71	3,734.84	2,996.44
North Sydney Pier	1.74		49.46	38.52	214.31	166.91	2,571.74	2,002.86

NOTE: (1) Average incentive bonus included above.

(2) The average monthly and yearly pay is adversely affected by the cutback in operations  
at the collieries which amounted to an average of 29.5 days during the year 1959.



# ACADIA COAL

The average pay(both total and take home) by hour (for datal employees) day (for contract employees),  
week, month and year of Colliery and  
Auxiliary Department Employee's  
(based on the year - 1959)

	Average Hourly Pay	AVERAGE WEEKLY PAY		AVERAGE MONTHLY PAY		AVERAGE YEARLY PAY	
		Total	Take Home	Total	Take Home	Total	Take Home
<u>Colliery - Datal</u>	\$ 1.72	\$ 64.86	\$ 53.84	\$ 281.05	\$ 233.30	\$ 3,372.54	\$ 2,799.54
<u>Auxiliary Departments</u>							
Wash plant	1.58	67.06	57.45	290.58	248.96	3,486.97	2,987.53
Power plant	1.64	94.06	80.19	407.61	347.48	4,891.30	4,169.80
Railway	1.61	61.28	52.34	265.57	266.80	3,186.80	2,721.60
Mechanical and electrical	1.66	73.24	56.97	317.37	246.88	3,808.48	2,962.52

## NOTE:

Average incentive bonus included above.





# DOMINION COAL COMPANY, LIMITED

The average pay, by hour (for datal employees) day (for contract employees)  
week, month and year by classification of mine labour based on the year 1959

<u>CLASSIFICATION</u>	<u>Average Hourly Pay for Datal Employees</u>	<u>Average Daily Pay for Contract Employees</u>	<u>Average Weekly Pay</u>	<u>Average Monthly Pay</u>	<u>Average Yearly Pay</u>
<u>Surface</u>					
Foreman and Clerks	1.52		66.88	234.08	2,980.13
Screening and Loading	1.48		65.12	277.92	2,906.21
Engine men	1.59		69.96	244.86	3,109.49
Firemen	1.56		68.64	240.24	3,054.05
Mechanics	1.59		69.96	244.86	3,109.49
Carpenters and Masons	1.54		67.76	237.16	3,017.09
Other Surface Labor	1.49		65.56	229.46	2,924.69
<u>Underground</u>					
Supervision	1.66		73.04	255.64	3,238.85
Horse Haulage - Datal	1.51		66.44	232.54	2,961.65
Horse Haulage - Contract		13.53	60.88	213.08	2,728.13
Mechanical Haulage -Datal	1.55		68.20	238.70	3,035.57
Mechanical Haulage-Contract		16.80	75.60	264.60	3,346.37
Stone Dusters	1.50		66.00	231.00	2,943.17
Pumpmen	1.57		69.08	241.78	3,072.53
Ventilation	1.55		68.20	238.70	3,035.57
Material Men	1.50		66.00	231.00	2,943.17
Roadmakers	1.64		72.16	252.56	3,201.89
Timbermen	1.62		21.28	249.48	3,164.93
Brushers - Datal	1.64		72.16	252.56	3,201.89
Brushers - Contract		22.39	100.75	352.63	4,402.67
Brushers, Archers-Longwall- Datal	1.64		72.16	252.56	3,201.89
Brushers, Archers-Longwall- Contract		23.51	105.80	370.30	4,614.77
Chock Builders and Drawers	1.58		69.52	243.32	3,091.01
Machine Attendants	1.59		69.96	244.86	3,109.49
Pipemen and Mechanics	1.61		70.84	247.94	3,146.45
Conveyor Movers	1.54		67.76	237.16	3,017.09
Electricians - Underground	1.57		69.08	241.78	3,072.53
Other Undg. Labour	1.50		66.00	231.00	2,943.17
<u>Mining</u>					
Mechanical	1.88		82.72	289.52	3,645.41
Rooms (contract)		18.11	81.50	285.25	3,594.17
Narrow Works (contract)		17.91	80.60	282.10	3,556.37
Longwall (contract)		17.25	77.62	271.67	3,431.21
Datal Mining	1.51		66.44	232.54	2,961.65

## NOTE:

1. Average incentive bonus included above.
2. The average monthly and yearly pay is adversely affected by the cutback in operations at the Collieries which amounted to an average of 43.1 days during the year 1959.



# OLD SYDNEY COLLIERIES

The average pay, by bonus (for datal employees) day (for contract employees)  
week, month and year; by classification of mine labour based on the year 1959

CLASSIFICATION	Average Hourly pay for Datal Employees	Average Daily pay for Contract Employees	Average Weekly Pay	Average Monthly Pay	Average Yearly Pay
<u>Surface</u>					
Screening and Loading - Datal	1.47		61.74	226.38	2,881.97
Screening and Loading - Contract		13.88	68.01	249.37	3,157.85
Enginemmen	1.58		66.36	243.32	3,085.25
Firemen	1.55		65.10	238.70	3,029.81
Mechanics	1.58		66.36	243.32	3,085.25
Carpenters and Masons	1.54		64.68	237.16	3,011.33
Other Surface Labour	1.48		62.16	227.92	2,900.45
<u>Underground</u>					
Supervision	1.64		68.88	252.56	3,196.13
Mechanical Haulage -Datal	1.50		63.00	231.00	2,937.41
Mechanical Haulage -Contract		14.84	72.72	266.64	3,365.09
Stone Dusters	1.48		62.16	227.92	2,900.45
Pumpmen	1.56		65.52	240.24	3,048.29
Ventilation	1.54		64.68	237.16	3,011.33
Material Men	1.48		62.16	227.92	2,900.45
Roadmakers	1.62		68.04	249.48	3,159.17
Timbermen	1.50		63.00	231.00	2,937.41
Brushers-Datal	1.62		68.04	249.48	3,159.17
Brushers, Archers -Longwall- Datal	1.48		62.16	227.92	2,900.45
Brushers, Archers -Longwall- Contract		20.96	102.70	376.57	4,684.21
Chock Builders and Drawers	1.58		66.36	243.32	3,085.25
Machine Attendants	1.50		63.00	231.00	2,937.41
Pipemen and Mechanics	1.58		66.36	243.32	3,085.25
Conveyor Movers	1.52		63.84	234.08	2,974.37
Electricians-Ungrd.	1.55		65.10	238.70	3,029.81
Other Ungrd. Labour	1.48		62.16	227.92	2,900.45
<u>Mining</u>					
Mechanical	1.90		78.80	292.60	3,676.61
Narrow Works		17.06	83.59	306.50	3,843.37
Longwall		17.70	86.73	318.01	3,981.53

## NOTE:

1. Average incentive bonus included above.
2. The average monthly and yearly pay is adversely affected by the cutback on operations at the Collieries, which amounted to an average of 29.5 days during the year 1959



## ACADIA COAL

The average pay, by hour (for datal employees) day (for contract employees)  
week, month and year by classification of mine labour based on the year 1 9 5 9

<u>CLASSIFICATION</u>	<u>Average Hourly pay for Datal Employees</u>	<u>Average Daily pay for Contract Employees</u>	<u>Average Weekly Pay</u>	<u>Average Monthly Pay</u>	<u>Average Yearly Pay</u>
<u>Surface</u>					
Screening and Loading	1.55	-	58.90	255.23	3,062.80
Enginemen	1.66	-	63.08	273.35	3,280.16
Mechanics	1.67	-	63.46	274.99	3,299.92
Carpenters and Masons	1.63	-	61.94	268.41	3,220.88
Other Surface Labor	1.59	-	60.42	261.82	3,141.84
<u>Underground</u>					
Supervision	1.70	-	64.60	279.93	3,359.20
Mechanical Haulage	1.57	-	59.66	258.53	3,102.32
Stone Dusters	1.54	-	58.52	253.59	3,043.04
Pumpmen	1.61	-	61.18	265.11	3,181.36
Ventilation	1.61	-	61.18	265.11	3,181.36
Material men	1.54	-	58.52	253.59	3,043.04
Roadmakers	1.68	-	63.84	276.64	3,319.68
Timbermen	1.55	-	58.90	255.23	3,062.80
Brushers	1.68	-	63.84	276.64	3,319.68
Brushers, Archers-Longwall	1.68	-	63.84	276.64	3,319.68
Chock Builders and Drawers	1.65	-	62.70	271.70	3,260.40
Pipemen and Mechanics	1.64	-	62.32	270.05	3,240.64
Conveyor Movers	1.56	-	59.28	256.88	3,082.56
Other Underground Labour	1.54	-	58.52	253.59	3,043.04
<u>Mining</u>					
Datal Mining	1.96		74.48	322.75	3,872.96

### NOTE:

Average incentive bonus included above.



# COAL OPERATIONS

## AGE DISTRIBUTION AND MARITAL STATUS OF MEN

### EMPLOYED IN THE UNDERNOTED COLLIERIES

AT DECEMBER 31, 1959

<u>Age</u>	<u>Florence Colliery</u>	<u>Dominion No. 16 Colliery</u>	<u>Dominion No. 4 Colliery</u>	<u>TOTAL</u>
18		1	1	2
19	3	6	1	10
20	13	16	1	30
21	8	28		36
22	9	42	2	53
23	13	22	4	39
24	15	33	4	52
<u>25</u>	12 — 12.4%	26 — 15.6%	9 — 2.8%	47
26	13	21	6	40
27	9	32	11	52
28	17	34	17	68
29	10	27	16	53
<u>30</u>	20 — 24.2%	27 — 28.2%	9 — 10.2%	56
31	12	34	12	58
32	6	23	9	38
33	9	34	20	63
34	20	26	19	65
<u>35</u>	17 — 35.1%	32 — 41.6%	15 — 19.6%	64
36	11	26	18	55
37	24	24	21	69
38	21	31	15	67
39	11	27 — MEAN	18	56
<u>40</u>	21 — 50.0% MEAN	25 — 53.5%	22 — 31.4%	68
41	18	25	19	62
42	17	30	20	67
43	10	32	27	69
44	11	24	22	57
<u>45</u>	8 — 61.0%	21 — 65.3%	22 — 45.2%	51
46	10	29	39 — MEAN	78
47	10	38	16	64
48	15	24	23	62
49	18	26	24	68
<u>50</u>	14 — 72.4%	23 — 77.9%	29 — 61.6%	66
51	12	17	34	63
52	9	28	31	68





<u>Age</u>	<u>Florence Colliery</u>	<u>Dominion No. 16 Colliery</u>	<u>Dominion No. 4 Colliery</u>	<u>TOTAL</u>
53	12	17	26	55
54	6	24	27	57
<u>55</u>	<u>10</u> — 80.7%	<u>17</u> — 87.1%	<u>28</u> — 79.9%	55
56	9	20	21	50
57	7	11	22	40
58	11	19	12	42
59	8	18	13	39
<u>60</u>	<u>10</u> — 88.4%	<u>14</u> — 94.4%	<u>24</u> — 91.5%	48
61	8	8	6	22
62	7	5	11	23
63	9	14	12	35
64	5	6	17	28
<u>65</u>	<u>8</u> — 94.7%	<u>6</u> — 97.9%	<u>10</u> — 98.5%	24
66	7	7	5	19
67	7	5		12
68	4	4	1	9
69	4	1	2	7
<u>70</u>	<u>3</u>	<u>3</u>	<u>1</u>	7
71	4			4
72	1	1	1	3
73	1			1
74			2	2
75		2		2
<hr/>				
TOTAL	587	1116	797	2500
<hr/>				

MARITAL STATUS

Married	506	866	644	2016
Single	<u>81</u>	<u>250</u>	<u>153</u>	<u>484</u>
TOTAL	587	1116	797	2500
<hr/>				



COAL TRANSPORTED BY WATER FROM THE SYDNEYS  
1946 - 1959  
(Expressed in Net Tons)

Destination	1946 Tons	1947 Tons	1948 Tons	1949 Tons	1950 Tons	1951 Tons	1952 Tons	1953 Tons	1954 Tons	1955 Tons	1956 Tons	1957 Tons	1958 Tons	1959 Tons
Montreal, Que.	143,595	83,412	544,957	786,789	630,357	609,492	740,748	935,842	1,210,333	1,154,409	987,882	1,166,834	1,630,957	1,470,300
Quebec, Que.	84,430	142,435	280,059	317,365	403,765	408,920	245,425	232,419	228,195	222,122	146,343	187,935	149,205	156,401
Three Rivers, Que.	155,409	50,865	215,351	294,722	192,022	214,996	121,397	243,196	230,139	201,215	123,072	207,436	69,275	38,749
Chicoutimi, Que.	-	95,967	158,305	76,633	104,043	152,415	150,076	110,447	105,851	111,277	23,364	7,235	15,747	16,833
Port Alfred, Que.	-	38,628	180,772	89,033	50,191	69,426	80,365	31,644	105,606	50,348	62,335	72,309	-	-
Sorel, Que.	-	-	-	-	-	-	-	-	-	-	-	-	-	3,277
Havre St. Pierre, Que.	-	-	2,135	438	331	279	406	310	311	199	310	-	-	-
Baie Comeau, Que.	-	-	-	-	-	-	-	-	-	-	-	-	4,237	-
Chandler, Que.	31,233	36,717	32,941	20,002	42,128	27,557	24,787	25,494	18,165	2,997	-	-	-	-
Clarke City, Que.	-	-	-	795	1,006	2,313	2,787	1,905	1,482	1,931	1,574	689	654	1,095
Seven Islands, Que.	-	-	-	-	-	-	209	-	-	-	-	-	-	-
Cap-Aux-Neules, Mag. Islands,	-	-	-	-	-	-	666	685	395	470	-	-	-	-
St. John's, Nfld.	72,335	71,383	88,078	110,434	104,225	78,155	87,656	82,362	60,210	32,887	30,779	34,099	58,943	57,066
Lewisporte, Nfld.	37,895	39,692	37,771	22,301	4,559	16,888	18,652	13,043	18,383	24,638	20,236	14,908	-	-
Bay Roberts, Nfld.	7,830	10,152	7,571	8,347	10,287	8,320	9,270	8,245	10,117	9,236	8,889	8,987	7,817	9,565
Wabana, Nfld.	28,070	42,541	23,296	26,502	30,417	9,681	24,874	15,761	24,006	17,239	19,827	28,852	15,833	18,367
Port-au-Port, Nfld.	5,653	4,480	3,609	2,347	301	301	2,554	1,203	1,214	1,253	2,461	1,287	1,527	1,603
Botwood, Nfld.	41,863	42,728	113,938	49,996	13,621	26,088	-	-	-	-	-	-	-	-
Cornbrook, Nfld.	22,291	11,523	32,568	37,761	13,835	2,835	2,436	-	-	-	-	-	-	-
Argente, Nfld.	810	-	-	-	-	-	-	-	-	-	-	-	-	-
Clarendville, Nfld.	6,403	21,288	-	-	-	-	-	-	-	-	-	-	-	-
Twillingate, Nfld.	-	-	678	-	-	-	-	-	-	-	-	-	-	-
Harbour Grace, Nfld.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbonear, Nfld.	-	-	-	-	-	-	1,320	-	-	-	1,315	-	-	6,227
Port Union, Nfld.	-	-	-	-	-	-	-	-	-	-	-	-	-	5,313
St. Pierre, Labrador,	4,398	8,383	6,761	-	-	-	-	-	-	-	-	-	-	-
Halifax, N.S.	207,367	163,128	228,703	112,716	202,626	130,009	160,923	113,978	86,292	103,127	27,279	-	-	-
Liverpool, N.S.	29,072	26,466	35,473	17,821	26,826	14,548	-	-	-	-	-	-	-	-
St. John, N.B.	197,082	129,752	167,777	47,768	17,459	-	-	-	-	-	-	-	-	-
United States,	-	-	16,573	40,162	10,550	-	-	-	-	-	-	-	-	-
United Kingdom,	-	-	-	-	-	11,292	-	-	-	-	248,356	231,180	-	-
Germany,	-	-	-	-	-	-	-	-	-	-	11,203	4,050	-	-
South America,	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total,	1,075,736	1,019,540	2,230,843	2,111,686	1,892,565	1,816,232	1,719,289	1,821,534	2,100,749	2,192,907	1,695,896	1,730,671	1,954,195	1,783,996

(These figures do not include shipments by schooners)

Appendix No. 16



# Coal Tonnage to St. Lawrence River Ports

By Owned, Time Chartered and Trip Charters 1950 - 1959 Inclusive

Year	Destination	Owned	Time Charter	Bare Boat Charter	Trip Charter	No. Trips	Total Net Tons
1950	Montreal	54,124	562,327	9,201	4,705	1	630,357
	Quebec	35,809	249,580	72,487	45,889	7	403,765
	Three Rivers	17,404	118,708	52,610	3,300	1	192,022
	Chicoutimi	-	4,549	99,494	-	-	104,043
	Port Alfred	-	45,595	4,596	-	-	50,191
	Chandler	-	12,008	-	30,120	9	42,128
	Clarke City	-	-	-	1,006	3	1,006
	Harve St.Pierre	-	-	-	331	1	331
	TOTAL	107,337	992,767	238,388	85,351	22	1,423,843
1951	Montreal	53,539	555,953	-	-	-	609,492
	Quebec	35,294	369,602	-	4,024	1	408,920
	Three Rivers	62,403	148,097	-	4,496	1	214,996
	Chicoutimi	-	147,789	4,626	-	-	152,415
	Port Alfred	9,172	60,254	-	-	-	69,426
	Chandler	-	-	-	27,557	8	27,557
	Clarke City	-	-	-	2,313	5	2,313
	Harve St.Pierre	-	-	-	279	1	279
	TOTAL	160,408	1,281,695	4,626	38,689	16	1,485,398
1952	Montreal	71,644	645,279	-	23,825	5	740,748
	Quebec	53,377	177,646	-	14,402	4	245,425
	Three Rivers	-	108,841	-	12,556	4	121,397
	Chicoutimi	-	135,986	-	14,090	4	150,076
	Port Alfred	9,190	71,175	-	-	-	80,365
	Chandler	-	-	-	24,787	7	24,787
	Clarke City	-	-	-	2,787	6	2,787
	Harve St.Pierre	-	-	-	406	1	406
	TOTAL	134,211	1,138,927	-	92,853	31	1,365,991



<u>Year</u>	<u>Destination</u>	<u>Owned</u>	<u>Time Charter</u>	<u>Bare Boat Charter</u>	<u>Trip Charter</u>	<u>No. Trips</u>	<u>Total Net Tons</u>
1953	Montreal	126,400	765,835	-	43,607	5	935,842
	Quebec	-	191,817	-	40,602	6	232,419
	Three Rivers	45,049	181,369	-	21,778	3	248,196
	Chicoutimi	-	110,447	-	-	-	110,447
	Port Alfred	-	31,644	-	-	-	31,644
	Chandler	-	-	-	-	6	25,494
	Harve St. Pierre	-	-	-	-	1	310
	TOTAL	171,449	1,281,112	-	131,791	21	1,584,352
1954	Montreal	260,464	942,841	-	7,028	1	1,210,333
	Quebec	36,485	162,790	-	28,920	5	228,195
	Three Rivers	10,657	203,711	-	15,821	3	230,189
	Chicoutimi	-	105,851	-	-	1	105,851
	Port Alfred	21,052	84,554	-	-	-	105,606
	Chandler	-	-	-	18,165	5	18,165
	Harve St. Pierre	-	-	-	311	1	311
	TOTAL	328,658	1,499,747	-	70,245	15	1,898,650
- 1955	Montreal	272,954	877,785	-	3,670	1	1,154,409
	Quebec	-	209,052	-	13,070	3	222,122
	Three Rivers	19,150	167,982	-	14,083	2	201,215
	Chicoutimi	-	111,277	-	-	-	111,277
	Port Alfred	21,276	29,072	-	-	-	50,348
	Harve St. Pierre	-	-	-	199	1	199
	TOTAL	313,380	1,395,168	-	31,022	7	1,739,570
1956	Montreal	166,071	804,223	-	17,588	2	987,882
	Quebec	8,549	126,956	-	10,838	3	146,343
	Three Rivers	26,169	79,191	-	22,712	7	128,072
	Chicoutimi	-	23,364	-	-	-	23,364
	Port Alfred	21,273	41,062	-	-	-	62,335
	TOTAL	222,062	1,074,796	-	51,138	12	1,347,996





<u>Year</u>	<u>Destination</u>	<u>Owned</u>	<u>Time Charter</u>	<u>Bare Boat Charter</u>	<u>Trip Charter</u>	<u>No. Trips</u>	<u>Total Net Tons</u>
1957	Montreal	45,548	993,457	-	127,829	22	1,166,834
	Quebec	-	165,594	-	22,391	4	187,985
	Three Rivers	36,178	163,221	-	8,037	3	207,436
	Chicoutimi	-	4,265	-	3,020	1	7,285
	Port Alfred	-	67,162	-	5,147	2	72,309
	TOTAL	81,726	1,393,699	-	166,424	32	1,641,849
1958	Montreal	689,178	932,535	-	9,244	1	1,630,957
	Quebec	3,966	141,203	-	4,036	1	149,205
	Three Rivers	10,000	54,709	-	4,566	1	69,275
	Chicoutimi	-	11,241	-	4,506	1	15,747
	Baie Comeau	-	4,237	-	-	-	4,237
	TOTAL	703,144	1,143,925	-	22,352	4	1,869,421
1959	Montreal	512,990	804,633	-	152,677	19	1,470,300
	Quebec	18,372	116,319	-	21,710	5	156,401
	Three Rivers	10,278	24,094	-	4,377	1	38,749
	Chicoutimi	-	16,033	-	-	-	16,033
	Sorel	-	3,277	-	-	-	3,277
	TOTAL	541,640	964,356	-	178,764	25	1,684,760



STATEMENT OF WATER TONNAGE COAL  
TO ST. LAWRENCE RIVER PORTS 1945-1949  
INCLUSIVE

<u>YEAR</u>	<u>OWNED</u>	<u>OTHERS</u>	<u>TOTAL</u>
1945	6823	75694	82517
1946	91120	323548	414668
1947	31818	416210	448024
1948	11 2648	1301872	1414520
1949	. 36478	1549299	1585777



## RAIL COAL

Statement re - the Tonnages of Coal  
shipped from Sydney and Sydney Mines  
for years shown below (these rail  
shipments include Coal to C. N. R. )

<u>Year</u>	<u>Central Canada</u>	<u>Maritime Points N. S. , N. B. , P. E. I.</u>	<u>Total</u>
1946	110,393	991,592	1,001,985
1947	25,780	334,423	360,203
1948	246,572	874,569	1,121,141
1949	288,747	685,079	973,826
1950	388,518	808,654	1,197,172
1951	330,726	715,772	1,046,498
1952	239,723	655,979	895,702
1953	231,664	630,094	861,758
1954	362,937	473,393	836,330
1955	425,787	487,416	913,203
1956	786,675	559,989	1,346,664
1957	596,365	711,249	1,307,614
1958	346,633	443,244	789,877
1959	480,198	654,405	1,134,603



TONNAGE TRANSHIPPED AT MONTREAL  
FOR GREAT LAKES PORTS

	<u>1959</u>	<u>1958</u>
Cornwall	49,125	66,739
Oshawa	13,264	
Point Anne	89,022	100,986
Port Burwell	91,232	
Port Colborne	17,785	
Thorold	8,063	2,500
Picton	6,848	
Clarkson	4,950	
Toronto	39,700	25,246
Hamilton	9,050	2,650
Port Stanley	5,250	
Kingston	19,895	12,149
Cobourg	5,602	
Cardinal	<u>10,058</u>	<u>          </u>
	369,844	210,270





SELF-UNLOADER RATES  
FROM MONTREAL  
TO LAKE PORTS

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<u>Ports</u>	<u>1959</u>
Port Burwell	2. 45
Thorold	2. 10
Oshawa	1. 85
Point Anne	3. 90
Cornwall	2. 00 S 1. 75 C
Kingston	2. 35 S 2. 10 C
Toronto	1. 90
Port Colborne	2. 10
Port Stanley	2. 75
Cardinal	1. 25

S. Single

C. Consecutive



BULKER RATES  
FROM MONTREAL TO  
LAKE PORTS

<u>PORTS</u>	<u>1959</u>
Port Burwell	1. 80
Thorold	1. 50
Toronto	1. 50
Hamilton	1. 50
Port Colborne	1. 50
Port Stanley	2. 00
Clarkson	1. 95



SELF UNLOADER RATES FROM VARIOUS U.S. GREAT LAKES PORTS  
TO VARIOUS ONTARIO GREAT LAKES PORTS  
1948 VIS-A-VIS 1959

From	TORONTO/HAMILTON			OSHAWA			PORT COLBORNE			KINGSTON			CORNWALL		
	1948	1959	% Increase	1948	1959	% Increase	1948	1959	% Increase	1948	1959	% Increase	1948	1959	% Increase
Toledo	100	148	48%	103	155	51%	69	114	65%						
Sandusky	100	148	48%	103	155	51%	69	114	65%						
Huron	96	143	49%	100	146	46%	67	107	60%						
Loraine	96	143	49%	100	146	46%	67	107	60%						
Cleveland	94	134	43%	96	137	43%	57	98	72%						
Fairport	87	126	45%	89	129	45%	51	90	76%						
Ashtabula	87	121	39%	89	125	40%	51	85	67%						
Conneaut	87	121	39%	89	125	40%	51	85	67%						
Erie	84	121	44%	86	125	45%	47	85	81%						
Buffalo	75	108	44%	76	110	45%	45	73	62%						
Charlotte	63	85	35%	63	94	49%				D. S.					
Sodus	63	85	35%	63	94	49%				64 86	98	53% D	122	200	64%
Oswego	63	85	35%	63	94	49%				64 86	98	53% D	122	200	64%
										64 86	98	53% D	122	200	64%
										D - Deep					
										S - Shallow					

DOSCO, Montreal,  
Traffic Department,  
January 22, 1960.



SELF UNLOADER RATES FROM VARIOUS U.S. GREAT LAKES PORTS  
TO VARIOUS ONTARIO GREAT LAKES PORTS

1948 VIS-A-VIS 1959

From	SARNIA			WINDSOR			PORT STANLEY			PORT BURWELL		
	%			%			%			%		
	1948	1959	Increase	1948	1959	Increase	1948	1959	Increase	1948	1959	Increase
Toledo	59	75½	28%	44	59	34%	60	90	50%	60	90	50%
Sandusky	59	75½	28%	44	59	34%	60	90	50%	60	90	50%
Huron	61	77½	27%	46	61	33%	58	87	50%	58	87	50%
Loraine	61	77½	27%	46	61	33%	58	87	50%	58	87	50%
Cleveland	64	80½	26%	49	64	31%	46	73	59%	46	73	59%
Fairport	68	86½	27%	53	71	34%	43	70	63%	43	70	63%
Ashtabula	71	89½	26%	56	74	32%	43	70	63%	43	70	63%
Conneaut	71	89½	26%	56	74	32%	43	70	63%	43	70	63%
Erie	71	89½	26%	56	74	32%	46	73	59%	46	73	59%
Buffalo	71	89½	26%	56	74	32%	63	90	43%	63	90	43%
Charlotte												
Sodus												
Oswego												

DOSCO, Montreal,  
Traffic Department,  
January 25, 1960.





BULKER FREIGHT RATES  
FROM  
VARIOUS U. S. GREAT LAKES PORTS  
TO MONTREAL, THREE RIVERS AND QUEBEC  
1946    VIS-A-VIS    1959

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From	<u>MONTREAL</u>			<u>THREE RIVERS</u>			<u>QUEBEC</u>		
	1946	1959	% Increase	1946	1959	% Increase	1946	1959	% Increase
<u>Lake Erie</u>									
Ashtabula	135	215	59%	145	230	59%	155	250	61%
Conneaut	135	215	59%	145	230	59%	155	250	61%
Erie	135	215	59%	145	230	59%	155	250	61%
Fairport	150	215	43%	160	230	44%	170	250	47%
Toledo	150	240	60%	160	251	57%	170	270	59%
Sandusky	150	240	60%	160	251	57%	170	270	59%
Loraine	150	240	60%	160	251	57%	170	270	59%
Cleveland	150	240	60%	160	251	57%	170	270	59%
<u>Lake Ontario</u>									
Charlotte	100	175	75%	110	190	73%	120	215	79%
Sodus	100	175	75%	110	190	73%	120	215	79%
Oswego	100	175	75%	110	190	73%	120	215	79%

Above are quoted rates and do not include Seaway Tolls viz. 42 cents from Lake Erie  
40 cents from Lake Ontario



COMPARISON OF RAIL RATES ON BITUMINOUS COAL FROM CLEARFIELD AND WESTMORLAND FIELDS TO GREAT LAKES PORTS  
FOR TRANSHIPMENT BY WATER - CENTS PER TON OF 2,000 LBS.

	<u>CLEARFIELD</u>			<u>WESTMORLAND</u>			<u>AVERAGE RATE FROM THE TWO FIELDS</u>	
	June 15/46 (1)	June 15/59 (2)	% Increase	June 15/46 (1)	June 15/59 (2)	% Increase	June 1/46	June 1/59
Ashabula Harbor, Ohio.	183	330	80.3	176	322	82.9	179.5	326
Cleveland, Ohio.	233	386	65.6	176	322	82.9	204.5	354
Erie Docks, Pa.	183	330	80.3	176	322	82.9	179.5	326
SODUS POINT, N.Y.	188	313	66.4	213	338	58.6	200.5	325.5

(1) Plus dumping charge - At Sodus Point, N.Y. 10¢ per net ton - at other Lake Ports 11¢ per net ton

(2) Plus dumping charge of 18¢ per net ton.

DOSCO, Montreal,  
Traffic Department,  
January 21, 1960.



COMPARISON OF ALL RAIL RATES ON BITUMINOUS COAL FROM CLEARFIELD AND WESTMORLAND FIELDS TO  
ILLUSTRATIVE DESTINATIONS IN EASTERN CANADA. RATES IN CENTS PER TON OF 2,000 LBS.

	CLEARFIELD			WESTMORLAND			RATE AVERAGE FROM THE TWO FIELDS	
	Jan. 1/46	Jan. 1/60	% Increase	Jan. 1/46	Jan. 1/60	% Increase	Jan. 1/46	Jan. 1/60
<u>TO POINTS IN 70% SUBVENTION TERRITORY:</u>								
Belleville, Ont. (2)	384	(3) 699	82.0	(2) 399	(3) 714	78.9	391.5	706.5
Camp Borden, Ont. (2)	404	(3) 724	79.2	(2) 419	(3) 739	76.3	411.5	731.5
Chalk River, Ont.		799			821			810
Kingston, Ont. (4)		725			(4) 747			736
Kitchener, Ont. (2)	374	(3) 684	82.8	(2) 389	(3) 699	79.6	381.5	691.5
London, Ont. (2)	374	(3) 684	82.8	(2) 389	(5) 609	77.1	381.5	686.5
North Bay, Ont. (2)	474	(3) 794	67.5	(2) 489	(3) 809	65.4	481.5	801.5
Ottawa, Ont. (1)	401.6	708	76.2	(1) 424.1	730	72.1	412.8	719
Peterboro, Ont. (2)	414	(3) 734	77.2	(2) 429	(3) 749	74.5	421.5	741.5
Sudbury, Ont. (2)	514	(3) 834	62.2	(2) 529	(3) 849	60.4	521.5	841.5
Trenton, Ont. (2)	384	(3) 699	82.0	(2) 399	(3) 714	78.9	391.5	706.5
<u>TO POINTS IN 55% SUBVENTION TERRITORY:</u>								
Chibougamau, Que.		1006			1028			1017
Drummondville, (1) 458		764	67.	(1) 480.3	786	63.6	469.1	775
Que.								
Granby, Que. (1) 455.3		762	67.4	(1) 475.8	784	64.7	465.5	773
Montreal, Que. (1) 410.7		717	74.5	(1) 433	739	70.6	421.8	728



CLEARFIELD                      WESTMORLAND                      RATE AVERAGE FROM THE TWO FIELDS

	<u>Jan. 1/46</u>	<u>Jan. 1/60</u>	<u>% Increase</u>	<u>Jan. 1/46</u>	<u>Jan. 1/60</u>	<u>% Increase</u>	<u>Jan. 1/46</u>	<u>Jan. 1/60</u>
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TO POINTS IN 55% SUBVENTION TERRITORY: (Continued)

Noranda, Que.	(1)	627.6	942	50.0	(1)	650	965	48.4	638.8	953.5
St. Hyacinthe, Que.	(1)	437.5	743	69.8	(1)	459.8	766	66.5	448.6	754.5
Shawinigan, Que.	(1)	452.6	762	68.3	(1)	475	784	65.0	463.8	773
Sherbrooke, Que.	(1)	464.2	770	65.8	(1)	486.6	793	62.9	475.4	781.5
Sorel, Que.	(1)	464.2	771	66.0	(1)	486.6	793	62.9	475.8	782
Thetford Mines, Que.	(1)	517.8	833	60.8	(1)	540.1	855	58.2	528.9	844

TO POINTS IN 35% SUBVENTION TERRITORY:

La Tuque, Que.	(1)	553.5	868	56.8	(1)	575.8	891	54.7	564.6	879.5
Quebec, Que.	(1)	508.9	821	61.3	(1)	531.2	843	58.6	520	832
(6) Ste. Anne de Beaufre, Que.	(1)	618.7	933	50.8	(1)	641	956	49.1	629.8	944.5
St. Felicien, Que.	(1)	616	931	51.1	(1)	638.3	953	49.3	627.1	942

Unless otherwise specified rates shown above are through rates published in PRR-3011-B, AA ICC2800.

- (1) Published through rate per ton of 2,240 lbs. was reduced to rate per ton of 2,000 lbs. for comparison purposes.  
Authority PRR-3011-A, AA ICC2500.
- (2) Combination over Black Rock, N. Y. Authority PRR-3042-A, AA ICC 2526, GTR CC-27-2, ICC 276.
- (3) Combination over Black Rock, N. Y. Authority PRR-3277; GTR CC-27-3, ICC 284.
- (4) Combination over Ogdensburg, N. Y. Authority PRR-3011-B, AA ICC 2800; CPC Ferry 1-R; CPR E-220-B.
- (5) Combination over Detroit, Michigan, Authority PRR-3262; GTW-341-M, ICC A-65.
- (6) Intermediate to Baie St. Paul, Que.

DOSCO, Montreal,  
Traffic Department,  
January 25, 1960.





# RATES ON BITUMINOUS COAL

<u>TO</u>		<u>FROM</u>
	<u>CLEARFIELD</u>	<u>WESTMORLAND</u>
Moncton, N.B.	1020	1042
Saint John, N.B.	987	1009
Fredericton, N.B.	987	1009
Woodstock, N.B.	987	1009
Edmundston, N.B.	949	971
Campbellton, N.B.	949	971
Chatham, N.B.	949	971
St. Stephen, N.B.	862	884
Bathurst, N.B.	949	971
Sussex, N.B.	1020	1042
New Castle, N.B.	993	1016
Gaspe, Que.	1074	1097
Perce, Que.	1074 (1)	1097 (1)
Paspebiac, Que.	1065 (2)	1077 (2)
Matapedia, Que.	949	971
Mont Joli, Que.	922	944
Riviere du Loup, Que.	877	899
Grand Falls, N.B.	993 (3)	1016 (3)
Oromocto, N.B.	1020 (4)	1042 (4)
Charlottetown, P.E.I.	1114	1136
Summerside, P.E.I.	1114	1136
Kensington, P.E.I.	1114	1136
Amherst, N.S.	1047	1069
Truro, N.S.	1105	1127
Halifax, N.S.	1132	1154
Yarmouth, N.S.	1234	1257
Middleton, N.S.	1185	1208

- (1) Intermediate to Gaspe, Que.
- (2) Intermediate to Chandler, Que.
- (3) Intermediate to Marysville, N.B.
- (4) Intermediate to Rothesay, N.B.

Tariff Authority - PRR 3011-B



"
   
STATEMENT COMPARING EX WATER RATES ON
   
BITUMINOUS COAL FROM AND TO POINTS NAMED
   
BELOW IN EFFECT IN 1946 WITH THOSE IN EFFECT
   
IN 1959 SHOWING ALSO THE AMOUNT OF INCREASE
   
AND THE PERCENTAGE INCREASE.

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FROM	TO	Rate in Effect 1946	Rate in - Effect 1959	Amount Of Increase	Percentage Of Increase
Three Rivers	Shawinigan	80	130	50	62.5%
	Grand'Mere	80	140	60	75 %
Quebec	Donncona	80	165	85	106.25%
	Beaupre	110	125	15	13.63%
Montreal	Ottawa	110	208	98	89.09%
	Hull	130	208	78	60 %
	Hawkesbury	100	225	125	125 %
	Gatineau	130	255	125	96.15%
	Sudbury	280	420	140	50 %
	North Bay	260	400	140	53.84%
	Cornwall	90	190	100	111.1%
	Peterborough	190	350	160	84.21%



COMPARATIVE STATEMENT OF RATES ON COAL FROM SYDNEY MINES, N.S.  
TO POINTS IN THE MARITIMES, QUEBEC AND ONTARIO, AS SHOWN BELOW.  
STATEMENT SHOWS RATES AND SUBVENTION IN EFFECT IN THE YEAR 1946  
AS COMPARED WITH THE PRESENT RATES AND SUBVENTION APPLICABLE

T o	Rate in Effect Jan. 1946	Subvention 30%		Net Rate Jan. 1946	Present Rate Jan. 1960		Subvention Jan. 1960	Net Rate Jan. 1960	Increase 1960 Over 1946		% of Increase 1960 over 1946
		Jan. 1946	Jan. 1946		Jan. 1960	Jan. 1960			Rate	Rate	
70% Territory											
London	Ont.	5.85	1.76	4.09	6.64		4.65	1.99	.79		14
Camp Borden	Ont.	-	-	-	6.35		4.45	1.90	-		-
North Bay	Ont.	-	-	-	6.15		4.31	1.84	-		-
Sudbury	Ont.	5.95	1.79	4.16	6.62		4.63	1.99	.67		11
Trenton	Ont.	-	-	-	-		-	-	-		-
Belleville	Ont.	5.00	1.50	3.50	5.76		4.03	1.73	.76		15
Kingston	Ont.	4.90	1.47	3.43	5.65		3.96	1.69	.75		15
Ottawa	Ont.	4.60	1.38	3.22	5.36		3.75	1.61	.76		17
Kitchener	Ont.	5.70	1.71	3.99	6.47		4.53	1.94	.77		14
Peterborough	Ont.	5.10	1.53	3.57	5.88		4.12	1.76	.78		15
Chalk River	Ont.	-	-	-	-		-	-	-		-
55% Territory											
Montreal	Que.	3.80	1.14	2.66	4.59		2.52	2.07	.79		21
Noranda	Que.	5.60	1.68	3.92	6.35		3.49	2.86	.75		14
Chibaugamou	Que.	-	-	-	6.86		3.77	3.09	-		-
Shawinigan	Que.	3.60	1.08	2.52	4.37		2.40	1.99	.77		21
St. Hyacinthe	Que.	3.70	1.11	2.59	4.48		2.46	2.02	.78		21
Sherbrooke	Que.	3.70	1.11	2.59	4.48		2.46	2.02	.78		21
Drummondville	Que.	3.60	1.08	2.52	4.37		2.40	1.97	.77		21
Thetford Mines	Que.	4.20	1.26	2.94	4.90		2.70	2.20	.79		17
Granby	Que.	3.90	1.17	2.73	4.68		2.57	2.11	.78		20
Sorel	Que.	3.80	1.14	2.66	4.57		2.51	2.06	.77		20
35% Territory											
St. Felicien	Que.	-	-	-	-		-	-	-		-
Quebec	Que.	3.20	.96	2.24	3.97-1/2		1.39	2.58-1/2	.77-1/2		24
Latugue	Que.	4.05	1.22	2.83	4.79		1.68	3.11	.74		18
St. Anne de Beaupre	Que.	4.80	1.44	3.36	4.81		1.68	3.13	.01		-
Maritime Territory											
Truro	N.S.	1.50			2.53-1/2				1.03-1/2		69
Halifax	N.S.	1.60			2.67-1/2				1.07-1/2		67
Yarmouth	N.S.	2.40			3.51-1/2				1.11-1/2		46
Amherst	N.S.	1.80			2.91-1/2				1.11-1/2		62
Moncton	N.B.	2.00			3.11-1/2				1.11-1/2		56
Saint John	N.B.	1.90			3.01-1/2				1.11-1/2		59
Woodstock	N.B.	2.50			3.61-1/2				1.11-1/2		45
Bathurst	N.B.	2.00			3.11-1/2				1.11-1/2		56
Charlottetown	P.E.I.	2.10			3.21-1/2				1.11-1/2		53



COMPARATIVE STATEMENT OF RATES ON COAL FROM SYDNEY, N.S., EX SYDNEY AND LOUISBURG  
RAILWAY COMPANY TO POINTS IN THE MARITIMES, QUEBEC AND ONTARIO, AS SHOWN BELOW,  
STATEMENT SHOWS RATES AND SUBVENTION IN EFFECT IN THE YEAR 1946 AS COMPARED WITH  
THE PRESENT RATES AND SUBVENTIONS APPLICABLE

THE PRESENT RATE AND SUBVENTION RATES									
To	Rate in Effect January 1946	Subvention Jan. 1946 30%	Net Rate January 1946	Present Rate January 1960	Subvention January 1960	Net Rate January 1960	Increase		Percentage of Increase 1960 over 1946 Rate
							1960	over 1946 Rate	
<u>70% Territory</u>									
London	5.85	1.76	4.09	6.48-1/2	4.54	1.94-1/2	0.63-1/2		11
Camp Borden	-	-	-	6.19-1/2	4.34	1.85-1/2	-		-
North Bay	-	-	-	5.99-1/2	4.20	1.79-1/2	-		-
Sudbury	5.95	1.79	4.16	6.46-1/2	4.53	1.93-1/2	0.51-1/2		9
Trenton	-	-	-	-	-	-	-		-
Belleville	5.00	1.50	3.50	5.60-1/2	3.92	1.68-1/2	0.60-1/2		12
Kingston	4.90	1.47	2.43	5.49-1/2	3.85	1.64-1/2	0.59-1/2		12
Ottawa	4.60	1.38	3.22	5.20-1/2	3.64	1.56-1/2	0.60-1/2		13
Kitchener	5.70	1.71	3.99	6.31-1/2	4.42	1.89-1/2	0.61-1/2		11
Peterborough	5.10	1.53	3.57	5.72-1/2	4.01	1.71-1/2	0.62-1/2		12
Chalk River	-	-	-	-	-	-	-		-
<u>55% Territory</u>									
Montreal	3.80	1.14	2.66	4.43-1/2	2.44	1.99-1/2	0.63-1/2		17
Noranda	5.60	1.68	3.92	6.19-1/2	3.41	2.78-1/2	0.59-1/2		11
Chibougamou	-	-	-	6.70-1/2	3.69	3.01-1/2	-		-
Shawinigan	3.60	1.08	2.52	4.21-1/2	2.32	1.89-1/2	0.61-1/2		17
St. Hyacinthe	3.70	1.11	2.59	4.32-1/2	2.38	1.94-1/2	0.62-1/2		17
Sherbrooke	3.70	1.11	2.59	4.32-1/2	2.38	1.94-1/2	0.62-1/2		17
Drummondville	3.60	1.08	2.52	4.21-1/2	2.32	1.89-1/2	0.61-1/2		17
Theftord Mines	4.20	1.26	2.94	4.74-1/2	2.61	2.13-1/2	0.54-1/2		13
Granby	3.90	1.17	2.73	4.52-1/2	2.49	2.03-1/2	0.62-1/2		16
Sorel	3.80	1.14	2.66	4.41-1/2	2.43	1.98-1/2	0.61-1/2		16
<u>35% Territory</u>									
St. Felicien	-	-	-	5.09-1/2	1.78	3.31-1/2	-		-
Quebec	3.20	0.96	2.24	4.82	1.62	3.18	1.62		51
La Tuque	4.05	1.22	2.83	4.63-1/2	1.62	3.01-1/2	0.58-1/2		14
Ste. Anne de Beaupre	4.80	1.44	3.36	4.67-1/2	1.64	3.03-1/2	-		-
<u>Maritime Territory</u>									
Truro	1.50	-	-	2.38	-	-	0.88		59
Halifax	1.60	-	-	2.48	-	-	0.88		55
Yarmouth	2.40	-	-	3.36	-	-	0.96		40
Amherst	1.80	-	-	2.76	-	-	0.96		53
Moncton	2.00	-	-	2.96	-	-	0.96		48
Saint John	1.90	-	-	2.86	-	-	0.96		50
Woodstock	2.50	-	-	3.46	-	-	0.96		38
Bathurst	2.00	-	-	2.96	-	-	0.96		48
Charlottetown	2.10	-	-	3.06	-	-	0.96		46





STATEMENT SHOWING HISTORY OF INCREASES ON BITUMINOUS  
COAL FREIGHT RATES AS AUTHORIZED BY THE BOARD OF  
TRANSPORT COMMISSIONERS, ALSO INCREASES APPLICABLE  
ON COAL TRAFFIC MOVING WITHIN THE SELECT TERRITORY TO  
AND ON COAL TRAFFIC MOVING FROM SELECT TERRITORY TO  
DESTINATIONS WEST OF LEVIS AND DIAMOND, QUEBEC.

Date of Increase	C.F.A. Tariff No.	Board's Order No. and Date.	Normal		M.F.R.A. Increase	
			Increase Authorized	M.F.R.A. Increase within Territory	to west of Levis & Diamond	
April 8/48	71	70425 March 30, 1948	25	20	22	
Oct. 11/49	72	73123 Sept. 24, 1949	8	6½	7	
March 23/50	72-A in lieu of 72	74034 March 1, 1950	15	12	13	
June 16/50	72-B in lieu of 72-A	74512 May 25, 1950	- (15)	- (12)	- (13)	
July 26/51	74	76886 July 4, 1951	10 15 20	8 12 16	9 13 18	
Feb. 11/52	74-A in lieu of 74	78164 Jan. 25, 1952	- (10) - (15) - (20)	- (8) - (12) - (16)	- (9) - (12) - (16)	



Date of Increase	C. F. A. Tariff No.	Board's Order No. and Date	Normal Increase Authorized	M. F. R. A. Increase within territory	M. F. R. A. Increase to west of Levis and Diamond
Jan. 1/53	74-B in lieu of 74-A	80462 Dec. 20, 1952	20 25 30 35 40	16 20 24 28 32	18 22 26 31 35
		Rates up to \$0.90 Rates \$0.91 to \$1.00 Rates \$1.01 to \$1/85 Rates \$1.86 to \$2.00 Rates \$2.01 and over			
March 16/53	74-C in lieu of 74-B	80965 March 6, 1953	30 35 35 40 40 45 50 50 55 55 60	24 24 28 28 32 36 36 40 40 44 48 48	26 31 31 35 35 40 44 44 48 48 53
		Rates up to \$0.80 Rates \$0.81 to \$0.84 Rates \$0.85 to \$0.90 Rates \$0.91 and \$0.92 Rates \$0.93 to \$1.00 Rates \$1.01 to \$1.70 Rates \$1.71 to \$1.76 Rates \$1.77 to \$1.85 Rates \$1.86 to \$1.88 Rates \$1.89 to \$2.00 Rates \$2.01 and over			
July 3/56	83	89030 June 18, 1956	12	10	11
Jan. 1/57	83-A in lieu of 83	90447 Dec. 17, 1956	18	14	16
July 1/57	-	M. F. R. A. Adjustment	-	-	15 in lieu of 16



<u>Date of Increase</u>	<u>C.F.A. Tariff No.</u>	<u>Board's Order No. and Date</u>	<u>Normal Increase Authorized</u>	<u>M.F.R.A. Increase within Territory</u>	<u>M.F.R.A. Increase to west of Levis and Diamond</u>
Jan. 15/58	83-B in lieu of 83-A	93265 Dec. 27, 1957	25*	20*	21*
Postponed until March 1/58		Order-in-Council P.C. 1958-24 Jan. 7, 1958			
Postponed May 1/58		Order-in-Council P.C. 1958-305 Feb. 26, 1958			
Cancelled April 30/58 restored	83-A	Order-in-Council P.C. 1958-601 April 29, 1958			
Dec. 1/58	84	96300 Nov. 17, 1958	22	17½	18
Aug. 1/59	84-A in lieu of 84	96300 Nov. 17, 1958 and 98424 July 10, 1959	- (22)	- (17½)	- (18)

DOSCO, Montreal,  
Traffic Department,  
January 19, 1960.



STATEMENT SHOWING SOME COAL  
ACCOUNTS DISPLACED BY OIL

<u>Region</u>	<u>Account</u>	<u>Annual Tonnage Displaced</u>	
Newfoundland	Anglo-Nfld. Development Co. Ltd.	100,000	
	Bowaters Limited	125,000	
	Buchans Mining Co. Ltd.	<u>14,000</u>	239,000
Nova Scotia	Nova Scotia Light & Power Co. Ltd.	50,000	
	Mersey Paper Co. Ltd.	80,000	
	L.E. Shaw Ltd.	10,000	
	Misc. Small Industry - Estimated	<u>200,000</u>	340,000
New Brunswick	Atlantic Sugar Refinery	50,000	
	Irving Pulp and Paper	15,000	
	St. John General	8,000	
	T. Eaton Co. Ltd.	2,500	
	Swift Canadian Co. Ltd.	3,500	
	L.E. Shaw Ltd. Chipman	10,000	
	Misc. Small Industry - Estimated	<u>200,000</u>	289,000
Pr. Ed. Island	Maritime Electric Co. Ltd.	40,000	
	Misc. Small Industry - Estimated	<u>10,000</u>	50,000
Quebec	Anglo Canadian Pulp & Paper	125,000	
	St. Lawrence Corporation	80,000	
	Gaspesia Sulphite	80,000	
	Consolidated Paper - Cape Mill	50,000	
	Canadian International Paper	150,000	
	Canadian Celanese Ltd.	60,000	
	Canadian Johns-Manville Co. Ltd.	25,000	
	St. Malo Heating	12,000	
	Montreal Locomotive Works	20,000	
	Dominion Oilcloth	10,000	
	Glass Companies - Montreal	28,000	
	Canadian Car Co. Ltd.	8,000	
	Chateau Frontenac, Quebec	6,000	
	Miscellaneous Industry, etc.	<u>300,000</u>	954,000
Railways	C.N.R.	1,300,000	
	C.P.R.	235,000	
	D.A.R.	35,000	
	Newfoundland Railway	<u>100,000</u>	1,670,000
TOTAL:			3,542,000

Montreal, October 1, 1959.

Note: A small amount of this tonnage was British coal but was a potential for our coal.





DELIVERIES OF PETROLEUM FUELS  
AS REPORTED BY REFINERS AND DISTRIBUTORS - CALENDAR YEARS  
PER BARRELS OF 35 IMPERIAL GALLONS

Year	Location	For Heating Homes and Buildings and for Lighting and Cooking	To Electric Light Plants	For Industrial Purposes as Fuel or Matl.	For Tractors & other Motor Vehicles	To Railways	Ships and Boats as Fuel	Unspecified Uses	Total Deliveries
1950	Atlantic Provinces	2,388,035	190,073	1,396,199	111,224	512,764	1,778,578	66,371	6,443,244
1950	Quebec	8,211,508	18,984	3,831,983	259,660	327,379	3,234,511	63,550	15,947,575
1951	Atlantic Provinces	2,552,183	139,070	2,013,749	240,837	758,381	2,022,865	7,334	7,734,419
1951	Quebec	9,154,521	8,227	4,869,174	393,251	504,868	3,243,058	96,496	18,274,601
1952	Atlantic Provinces	3,072,722	87,956	2,042,808	347,942	881,415	2,239,040	125,055	8,796,938
1952	Quebec	10,232,680	13,164	5,417,298	470,676	576,006	3,987,350	150,384	20,847,558
1953	Atlantic Provinces	3,349,110	115,057	1,888,943	271,998	856,393	2,249,513	116,193	8,847,207
1953	Quebec	11,137,646	41,648	6,936,734	531,955	610,450	3,821,310	380,994	23,460,737
1954	Atlantic Provinces	3,857,753	119,490	2,682,213	420,108	774,874	1,936,404	42,451	9,833,293
1954	Quebec	13,900,570	34,649	8,067,435	860,396	858,948	3,392,445	538,498	27,652,941
1955	Atlantic Provinces	4,767,348	146,022	3,138,720	286,297	1,010,039	2,082,488	83,203	11,514,117
1955	Quebec	15,286,150	45,336	10,034,563	722,629	1,109,240	3,511,274	696,915	31,406,107
1956	Atlantic Provinces	5,766,216	564,535	3,375,079	181,299	1,214,663	1,908,001	181,865	13,191,658
1956	Quebec	17,161,209	19,476	11,439,397	986,852	1,402,111	4,080,015	258,002	35,347,062
1957	Atlantic Provinces	5,729,375	422,304	3,936,010	189,954	1,083,102	3,073,405	38,445	14,472,595
1957	Quebec	18,080,732	171,969	10,362,176	1,051,635	1,675,271	4,658,405	949,708	36,949,896
1958	Atlantic Provinces	6,686,451	Included in Indus.	3,723,143	212,180	1,197,537	2,773,085	24,126	14,616,522
1958	Quebec	21,709,928	by D. B. S.	11,349,622	803,220	2,078,205	3,890,938	659,109	40,491,022

Note: Fuel consumption in oil refinery boilers is not included.  
This has not been reported by D.B.S. since 1952.

Montreal, November 23, 1959.



ACCOUNTS WHICH HAVE CONVERTED OR MAY  
 CONVERT TO NATURAL GAS IN THE AREA  
SERVED BY NOVA SCOTIA COAL

<u>Customer</u>	<u>Location</u>	<u>Tonnage</u>	<u>Remarks</u>
Quebec:			
Dominion Engineering	Lachine	3,000	Direct loss to coal
Canada & Dominion Sugar	Montreal	45,000	Direct loss to coal
Suburban Enterprises	Norgate	7,000	Direct loss to coal
Canada Cement Company	Hull	50,000	Direct loss to coal
Westmount Realities	Montreal	7,000	Direct loss to coal
St. Luc Hospital	Montreal	-	Oil to gas
Dominion Glass Company	Montreal	-	Oil to gas
Pilkington Glass	Montreal	-	Oil to gas
Pittsburg Glass	Montreal	-	Oil to gas
Consumers Glass	Montreal	-	Oil to gas
Miron Freres	Montreal	-	Prospective Tonnage
		112,000	150,000
Other Accounts Approached to Convert:			
Canadian Internl. Paper	Gatineau	220,000	
Canadian Internl. Paper	Temiskamg.	<u>70,000</u>	<u>290,000</u>
Quebec Total:		<u>402,000</u>	
Ontario:			
Canada Starch Co.	Cardinal	35,000	Direct loss to coal
Carnation Company	Alexandria	2,000	Direct loss to coal
Dupont Co. Limited	Maitland	60,000	Direct loss to coal
Dept. of Def. Production	Cp. Borden	7,500	Direct loss to coal
Can. Cement Company	Pt. Colborne	<u>25,000</u>	129,500
Other Accounts Approached to Convert:			
Canada Cement Co.	Pt. Anne	100,000	
Canada Cement Co.	Woodstock	100,000	
Can. Internl. Paper	Hwksbury	<u>40,000</u>	<u>240,000</u>
Ontario Total:		<u>369,500</u>	
Grand Total:			771,500 tons.



ACCOUNTS IN THE ST. LAWRENCE AREA UTILIZING  
SURPLUS ELECTRIC POWER FOR STEAM PURPOSES,  
WITH RESULTANT DECREASE IN COAL REQUIREMENTS.

<u>Customer</u>	<u>Location</u>	<u>Actual 1956/57</u>	<u>Estimated 1959/60</u>	<u>Estimated Tonnage Displaced by Electricity</u>
Consolidated Paper	Shawinigan	73,000	10,000	63,000
Consolidated Paper	Grand' Mere	58,000	5,000	53,000
Consolidated Paper	Three Rivers	48,000	20,000	28,000
Consolidated Paper	Port Alfred	39,000	-	39,000
DuPont Co.	Shawinigan	32,000	20,000	12,000
Shaw. Chemicals	Shawinigan	24,000	5,000	19,000
Price Bros.	Riverbend	82,000	15,000	67,000
St. Lawrence Corp.	Dolbeau	48,000	-	48,000
Aluminum Co.	Arvida	25,000	-	25,000
Can. Int. Paper	La Tuque	96,000	20,000	76,000
Jos. MacLaren	Buckingham	25,000	-	25,000
Donnacona Paper	Donnacona	81,000	40,000	41,000
St. Anne Paper	Beaupre	<u>51,000</u>	<u>15,000</u>	<u>36,000</u>
		682,000	150,000	532,000
		<u><u>          </u></u>	<u><u>          </u></u>	<u><u>          </u></u>

Note: The 532,000 tons shown above could be reduced by about 75,000 tons to four accounts burning Minto and other coals offered at prices below those of Dominion Coal Company, Limited.



# SUBVENTION RATES APPLICABLE TO NOVA SCOTIA COAL

To shipments by rail from St. Lawrence Terminals to destinations in the Province of Quebec:

<u>Effective Date</u>	<u>Assistance</u>
Trial - Sept. 2, 1924 to	
March 31, 1925	1/5¢ per ton per mile; max. 50¢ per ton
March 30, 1928	1/5¢ per ton per mile; max. 75¢ per ton
June 1, 1931	No change in rate but Cornwall and Ottawa included
May 9, 1932	No change in rate but Cornwall and Ottawa excluded
August 4, 1936	Assistance cancelled
May 1, 1948	Up to \$1.75 per net ton
April 1, 1958	Up to \$2.25 per net ton
April 23, 1959	Up to \$2.75 per net ton

To shipments by rail from St. Lawrence Terminals to destinations in the Province of Ontario:

<u>Effective Date</u>	<u>Assistance</u>
Trial - Sept. 2, 1924 to	
March 31, 1925	1/5¢ per ton per mile; max. 50¢ per ton
March 30, 1928	1/5¢ per ton per mile; max. 75¢ per ton
June 1, 1931	1/3¢ per ton per mile; max. \$1.50 per ton
May 9, 1932	No change in rate but Cornwall and Ottawa included
May 28, 1934	No change in rate but Hull included
Nov. 8, 1938	4.5 mills per ton per mile; max. \$2 per net ton
May 22, 1939	Temiskaming and Gatineau added
Dec. 5, 1939	1/3¢ per ton per mile; max. \$1.50 per net ton
April 1, 1940	The difference in amount per net ton between the laid down cost of N.S. coal and the U.S. coal to a maximum of \$2 per net ton.
Feb. 26, 1948	1/3¢ per ton per mile; max. \$1.50 per net ton
April 1, 1952	Assistance expired
May 15, 1953	Up to \$1.75 per net ton
April 1, 1958	Up to \$2.25 per net ton
April 23, 1959	Up to \$4.50 per net ton





# SUBVENTION RATES APPLICABLE TO NOVA SCOTIA COAL

To shipments by water from St. Lawrence Terminals to destinations in the Province of Quebec west of Montreal:

<u>Effective Date</u>	<u>Assistance</u>
May 9, 1932	\$1.00 per net ton
March 3, 1934	\$1.00 per net ton but not to exceed assistance provided for rail shipments ex St. Lawrence Terminals
August 4, 1936	Assistance cancelled
February 26, 1948	1/3¢ per ton per mile; max. \$1.50 per net ton
May 15, 1953	Up to \$1.75 per net ton
April 1, 1958	Up to \$2.25 per net ton
April 23, 1959	Up to \$2.75 per net ton

To shipments by water from St. Lawrence Terminals to destinations in the Province of Ontario:

<u>Effective Date</u>	<u>Assistance</u>
May 9, 1932	\$1.00 per net ton
March 3, 1934	\$1.00 per net ton but not to exceed assistance provided for rail shipments ex St. Lawrence Terminals
May 28, 1934	Hull now included
August 4, 1936	1/3¢ per ton per mile; max. \$1.50 per net ton
November 8, 1938	4.5 mills per ton per mile; max. \$2 per net ton
May 22, 1939	Temiskaming and Gatineau added
December 5, 1939	1/3¢ per ton per mile; max. \$1.50 per net ton
April 1, 1940	The difference in amount per net ton between the laid down cost of N.S. coal and the U.S. coal to a maximum of \$2 per net ton
February 26, 1948	1/3¢ per ton per mile; max. \$1.50 per net ton
April 1, 1952	Assistance cancelled
May 15, 1953	Up to \$1.75 per net ton
April 1, 1958	Up to \$2.25 per net ton; special assistance up to \$2.80 per net ton on 100,000 tons for Point Anne
April 23, 1959	Up to \$4.50 per net ton



# SUBVENTION RATES APPLICABLE TO NOVA SCOTIA COAL

To all rail shipments to Province of Quebec:

<u>Effective Date</u>	<u>Assistance</u>
Trial - Sept. 2, 1924 to March 31, 1925	1/5¢ per ton per mile; max. 50¢ per ton
March 30, 1928	Maximum rail freight rate \$3 per ton winter only
June 1, 1931	1/7¢ per ton per mile; max. \$2. per ton - Nov. 15 to April 15 each year
July 28, 1932	Rates extended to all year round
April 1, 1935	Difference between cost of N.S. and imported coal up to a maximum \$2 per ton
August 4, 1936	30% reduction of the freight rate; no maximum, Levis and Quebec west
April 1, 1940	The difference in amount per net ton between the laid down cost of N.S. coal and the U.S. coal to a maximum of \$2 per net ton
February 26, 1948	30% of the freight rate
April 1, 1949	Increased to 50% with maximum \$2.50 per net ton for period April 1 to September 30, 1949
December 1, 1949	30% of the freight rate
April 1, 1952	45% of the freight rate; max. \$2.50 per net ton
April 1, 1958	60% of the freight rate; max. \$4.50 per net ton to points in Ontario and Quebec in the districts of Temiskaming, Pontiac, Gatineau, Papineau and Argenteuil;
	25% of the freight rate to points in Quebec in the districts of Charlevoix, Chicoutimi, Jonquiere - Kenogami, Lac St. Jean and Roberval;
	35% of the freight rate to points in Quebec in the districts of Montmorency, Quebec, Portneuf and Lavolette;
	45% of the freight rate to points in Quebec in districts other than those named above, excluding points east of Levis.
April 23, 1959	70% of the freight rate; max. \$5 per net ton to points in Ontario and Quebec in the districts of Temiskaming, Pontiac, Gatineau, Papineau and Argenteuil;
	35% of the freight rate to points in Quebec in the districts of Charlevoix, Chicoutimi, Jonquiere - Kenogami, Lac St. Jean and Roberval; Montmorency Quebec, Portneuf and Lavolette;
	55% of the freight rate to points in Quebec in districts other than those named above, excluding points east of Levis.



# SUBVENTION RATES APPLICABLE TO NOVA SCOTIA COAL

To all rail shipments to Province of Ontario:

<u>Effective Date</u>	<u>Assistance</u>
Trial - Sept. 2, 1924 to March 31, 1925	1/5¢ per ton per mile; max. 50¢ per ton
March 30, 1928	Assistance cancelled
June 1, 1931	1/7¢ per ton per mile; max. \$2 per ton, Nov. 15 to April 15 each year
July 28, 1932	Rate extended to all year round
August 4, 1936	1/7¢ per ton per mile; max. \$1.50 per net ton including Hull, Quebec
November 8, 1938	1/7¢ per ton per mile; max. \$2 per net ton including Hull, Quebec
December 5, 1939	1/7¢ per ton per mile; max. \$1.50 per net ton
April 1, 1940	The difference in amount per net ton between the laid down cost of N.S. coal and the U.S. coal to a maximum of \$2 per net ton
February 26, 1948	1/7¢ per ton mile; max. \$1.50 per net ton
April 1, 1952	45% of the freight rate; max. \$2.50 per net ton
April 1, 1958	60% of the freight rate; max. \$4.50 per net ton to points in Ontario and Quebec in the districts of Temiskaming, Pontiac, Gatineau, Papineau and Argenteuil; 25% of the freight rate to points in Quebec in the districts of Charlevoix, Chicoutimi, Jonquiere - Kenogami, Lac St. Jean and Roberval; 35% of the freight rate to points in Quebec in the districts of Montmorency, Quebec, Portneuf and Lavolette; 45% of the freight rate to points in Quebec in districts other than those named above, excluding points east of Levis.
April 23, 1959	70% of the freight rate; max. \$5 per net ton to points in Ontario and Quebec in the districts of Temiskaming, Pontiac, Gatineau, Papineau and Argenteuil; 35% of the freight rate to points in Quebec in the districts of Charlevoix, Chicoutimi, Jonquiere - Kenogami, Lac St. Jean and Roberval; Montmorency Quebec, Portneuf and Lavolette; 55% of the freight rate to points in Quebec in districts other than those named above, excluding points east of Levis.



# SUBVENTION RATES APPLICABLE TO NOVA SCOTIA COAL

Railway coal (locomotive coal consumed by the railways in Quebec and in Ontario): -

<u>Effective Date</u>	<u>Assistance</u>
June 1, 1931	Same rates as industrial coal applicable to any increased tonnage of Canadian coal used over and above average consumption in 1928, 29 & 30.
May 9, 1932	Difference in cost of imported and Maritime Provinces coal up to a maximum of \$2 per net ton.
April 4, 1933	Maximum increased to \$2.50 per net ton
May 28, 1934	Maximum reduced to \$2.00 per net ton
November 8, 1938	Maximum increased to \$2.50 per net ton
December 5, 1939	No change in rate but Province of Quebec eliminated
October 1, 1940	Rail shipments to Levis under subvention assistance up to \$1.50 per net ton. Assistance also made available on shipments to Montreal Terminals for coal moved via Portland and Searsport up to 75¢ per net ton.
November 1, 1941	Rail coal for consumption in the Province of Quebec shipped via Portland or Searsport, the difference per net ton between laid down cost of N.S. coal and laid down cost of imported coal up to \$2.00 per net ton
February 26, 1948	Up to \$2.50 per net ton
April 1, 1952	Up to \$3.00 per net ton
April 1, 1954	Up to \$4.00 per net ton for use in New Brunswick, Quebec and Ontario

Shipments via Portland or Searsport: -

<u>Effective Date</u>	<u>Assistance</u>
November 1, 1941	The difference in amount per net ton between the laid down cost of N.S. coal and imported coal up to \$2.00 per net ton
1944	No longer applicable





# SUBVENTION RATES APPLICABLE TO NOVA SCOTIA COAL

Coal transported in chartered vessels from Nova Scotia to ports in the Province of Quebec:

<u>Effective Date</u>	<u>Assistance</u>
April 15, 1941	\$1.00 per net ton; April 15, 1941 to Dec. 31, 1941
May 1, 1942	Expired
1944, 1945 & 1946	Difference in weighted average transportation cost per ton for season 1940 and current season
August 15 to Dec.31, 1947	Up to \$1.00 per net ton
February 26, 1948	Up to \$1.50 per net ton
April 1, 1949	Up to \$2.00 per net ton
April 1, 1952	Maximum increased to \$3.00 per net ton
April 1, 1958	No change but flat rate \$3 per ton applicable when coal transshipped for delivery to Ontario and points in Quebec west of Montreal
April 23, 1959	Up to \$4.50 per net ton but not less than \$3.25 for coal transshipped for delivery to Ontario and points in Quebec west of Montreal

**Shipments** via Pointe du Chene, Industrial coal:

<u>Effective Date</u>	<u>Assistance</u>
August 1, 1942	The difference in amount per net ton between the laid down cost of Cape Breton coal and the lesser of the laid down costs of imported coal or Canadian coal delivered by other customary routings up to a maximum of \$2.50 per net ton.
1944, 1945 & 1946	No longer applicable

**Shipments** via Pointe du Chene, Railway fuel:

<u>Effective Date</u>	<u>Assistance</u>
August 1, 1942	For use in N.S., N.B., P.E.I. or Quebec, the difference between the laid down cost of Cape Breton coal at Moncton when moved via Pte. du Chene and the laid down cost at the same point if transported all rail from Sydney.
1944, 1945 & 1946	No longer applicable.



# SUBVENTION RATES APPLICABLE TO NOVA SCOTIA COAL

Shipments via St. John, N.B. to points in the Province of Quebec; Industrial and Railway use:

<u>Effective Date</u>	<u>Assistance</u>
February 15, 1943	The difference in amount per net ton between the the laid down cost of Nova Scotia and imported coal up to \$2.00 per net ton.
1944, 1945 & 1946	No longer applicable.

P.C. 944 covering Canadian coal used at a coke and gas plant:

<u>Effective Date</u>	<u>Assistance</u>
Apr 1, 1932	Difference between laid down cost of Canadian coal and imported coal up to \$1.00 per ton.
May 1, 1942	P.C. 3637 adds: That, for coke and gas plants in Canada which, during the fiscal year ended March 31, 1942, were using Canadian coal upon which assistance was paid in the terms of Order-in-Council P.C. 944 of the 26th day of April, 1932 the assistance payable as from April 1, 1942 shall not be less than the rate of assistance which was paid on such coal during the basis period Sept. 15 to Oct. 11, 1941, unless, due to changed competitive conditions, it is found that the differential calculated for the basic period can be reduced without endangering the ceiling price established on the coke produced.
March 31, 1949	Revoked.

Coal Exported:

<u>Effective Date</u>	<u>Assistance</u>
April 1, 1955	Effective June 1, 1955 up to \$2.50 per ton on 120,000 tons and up to \$2.30 per ton on next 130,000 tons.
April 1, 1958	Up to \$4.00 per net ton



SUBVENTION RATES APPLICABLE  
TO NOVA SCOTIA COAL

To Newfoundland shipments:

<u>Effective Date</u>	<u>Assistance</u>
April 1, 1949	Ports situated on Gulf of St. Lawrence up to \$2.00 per net ton
April 1, 1952	Maximum increased to \$3.00 per net ton
October 28, 1954	Flat rate \$2.40 per net ton to St. John's Lewisporte.
January 15, 1955	Rate of \$2.40 extended to all ports in Newfoundland
April 1, 1955	Assistance expired.

To Springhill coal:

<u>Effective Date</u>	<u>Assistance</u>
August 22, 1957	Special assistance of \$2.00 per net ton to direct shipments to consumers in Quebec and Ontario; shipments to coal docks in Quebec for blending with other Nova Scotia coal \$3.50 per net ton.
	Additional to the above assistance, Springhill received the benefit of the regular subvention rates applicable to all rail and ex dock shipments.



# COAL SHIPPED UNDER SUBVENTION

## QUEBEC AND ONTARIO

<u>Year</u>	<u>Quebec Tonnage</u>	<u>Ontario Tonnage</u>	<u>Total Net Tons</u>
1924	20,350	21,617	41,967
1928	76,717	32,648	109,365
1929	220,566	77,812	298,378
1930	276,797	94,182	370,979
1931	302,617	98,218	400,835
1932	430,927	258,906	689,833
1933	854,778	492,287	1,347,065
1934	865,651	860,433	1,726,084
1935	688,615	876,605	1,565,220
1936	649,790	987,657	1,637,447
1937	788,266	1,093,383	1,881,649
1938	666,604	685,768	1,352,372
1939	949,667	1,355,409	2,305,076
1940	1,359,034	556,856	1,915,890
1941	1,846,218	91,091	1,937,309
1942	1,491,691	-	1,491,691
1943	659,914	-	659,914
1944	422,081	-	422,081
1945	162,599	-	162,599
1946	417,735	-	417,735
1947	523,479	-	523,479
1948	1,645,597	-	1,645,597
1949	1,845,228	-	1,845,228
1950	1,990,338	-	1,990,338
1951	1,906,396	-	1,906,396
1952	1,626,807	-	1,626,807
1953	1,702,076	27,129	1,729,205
1954	2,098,589	198,601	2,297,190
1955	2,296,751	179,199	2,475,950
1956	2,282,071	180,549	2,462,620
1957	1,745,014	114,025	1,859,039
1958	1,620,893	503,145	2,124,038
1959	1,650,000	666,533	2,316,533
	36,083,856	9,452,053	45,535,909





NET TONS DOSCO COAL DELIVERED TO  
ST. LAWRENCE DISTRIBUTING DOCKS

1945 --1959

<u>Year</u>	<u>Montreal</u>	<u>Three Rivers</u>	<u>Quebec City</u>	<u>Chicoutimi</u>
1945	88,833	6,783	20,087	-
1946	177,947	135,165	93,006	-
1947	96,176	51,178	142,512	95,966
1948	465,409	209,583	279,731	153,815
1949	700,417	302,707	321,701	76,717
1950	587,695	218,570	403,995	104,470
1951	469,483	226,158	435,832	155,842
1952	544,497	135,487	261,396	150,117
1953	740,812	270,319	252,505	116,918
1954	1,146,447	244,407	243,196	111,253
1955	1,039,934	211,440	249,579	111,217
1956	912,214	153,309	202,090	25,935
1957	956,905	224,244	213,317	9,852
1958	1,330,582	69,906	151,697	15,747
1959	1,155,716	39,626	162,456	16,033



DOSCO COAL SHIPMENTS  
TO CHIEF QUEBEC CONSUMING CENTRES

1945 to 1959  
Net Tons

<u>Location</u>	<u>Year</u>	<u>Cement Plants</u>	<u>Paper Mills</u>	<u>Other Industrials</u>	<u>Govt. Buildings</u>	<u>Railways</u>	<u>Bunkers</u>	<u>Distributors</u>	<u>Total</u>
Montreal	1945	26,546							26,546
Three Rivers			9,413	400				326	10,139
Donnacona			2,410						2,410
Nairn's Falls			5,353						5,353
Quebec				26,957				6,697	33,654
Chandler				31,936					31,936
Sherbrooke Area				6,475					6,475
Beloeil				9,257					9,257
Noranda				10,568					10,568
Montreal	1946	49,565		75,745					125,310
Quebec				17,346				28,806	46,152
Three Rivers			48,658	4,754				12,641	66,053
Shawinigan Falls			4,574						4,574
Grand' Mere			8,252						8,252
Beaupre			30,283						30,283
Donnacona			15,349						15,349
Nairn's Falls			7,733						7,733
Chandler				31,233					31,233
Magog				21,422					21,422
Drummondville				1,489					1,489
Sherbrooke Area				6,075				3,399	9,474
Beloeil				8,700					8,700
Noranda				60,530					60,530

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<u>Location</u>	<u>Year</u>	<u>Cement Plants</u>	<u>Paper Mills</u>	<u>Other Industrials</u>	<u>Govt. Buildings</u>	<u>Railways</u>	<u>Bunkers</u>	<u>Distributors</u>	<u>Total</u>
Montreal	1947	29,092		5,752			10,694	14,763	60,301
Quebec				19,784				71,879	91,663
Three Rivers			27,078	8,282				8,637	43,997
Shawinigan Falls			3,872	12,902					16,774
Grand' Mere			665						665
Beaupre			36,737						36,737
Donnacona			7,865						7,865
LaTuque			4,573						4,573
Nairn's Falls			6,895						6,895
River Bend			59,395						59,395
Dolbeau			36,574						36,574
Port Alfred				38,628					38,628
Chandler				36,718					36,718
Magog				41,094					41,094
Drummondville				1,617					1,617
Sherbrooke Area				1,733				6,126	7,859
Asbestos				395					395
St. Hyacinthe								2,423	2,423
Windsor Mills			5,704						5,704
Beloeil				7,940					7,940
Noranda				72,783					72,783
Montreal	1948	168,541		89,976	25,546		611	206,824	491,498
Quebec				20,041				161,440	181,481
Three Rivers			78,150	11,729				28,964	118,843
Shawinigan Falls			41,068	60,687					101,755
Grand' Mere			40,193						40,193
Beaupre			35,566						35,566
Donnacona			52,355						52,355
LaTuque			25,742						25,742
Nairn's Falls			18,520						18,520
River Bend			59,123						59,123
Dolbeau			45,817						45,817
Port Alfred				180,773					180,773
Chandler				36,043					36,043









<u>Location</u>	<u>Year</u>	<u>Cement Plants</u>	<u>Paper Mills</u>	<u>Other Industrials</u>	<u>Govt. Buildings</u>	<u>Railways</u>	<u>Bunkers</u>	<u>Distributors</u>	<u>Total</u>
Montreal	1950	235,539		48,563	34,398		3,497	297,887	619,884
Quebec				27,820		149,962		136,007	313,789
Three Rivers			25,766	9,500		64,314		26,059	125,639
Shawinigan Falls			19,114	98,087					117,201
Grand' Mere			21,775						21,775
Beaupre			45,009						45,009
Donnacona			40,159						40,159
LaTuque			27,516						27,516
Nairn's Falls			8,806						8,806
River Bend			54,521						54,521
Dolbeau			36,680						36,680
Port Alfred									50,191
Chandler				50,191					47,289
Magog				47,289					51,017
Drummondville				51,017					25,619
Sherbrooke Area				25,619					67,814
Asbestos				11,764				56,050	4,100
St. Hyacinthe				4,100					10,857
Windsor Mills			12,741	362				10,495	12,741
Mont Rolland			2,502						2,502
Beloeil									11,670
St. Hilaire				11,670					16,363
Staynerville				16,363					6,293
Noranda				6,293					92,878
				92,878					
Montreal	1951	242,777		29,287	33,175		1,657	230,757	537,653
Quebec				27,002		168,494		133,653	329,149
Three Rivers			29,897	10,591		68,523		25,192	134,203
Shawinigan Falls			18,206	81,461					99,667
Grand' Mere			17,747						17,747
Beaupre			48,015						48,015
Donnacona			25,685						25,685
La Tuque			34,597						34,597
Nairn's Falls			10,554						10,554
River Bend			66,336						66,336
Dolbeau			46,456						46,456



<u>Location</u>	<u>Year</u>	<u>Cement Plants</u>	<u>Paper Mills</u>	<u>Other Industrials</u>	<u>Govt. Buildings</u>	<u>Railways</u>	<u>Bunkers</u>	<u>Distributors</u>	<u>Total</u>
Port Alfred	1951			69,426					69,426
Chandler	(Cont.)			28,223					28,223
Magog				39,974					39,974
Drummondville				27,321					27,321
Sherbrooke Area				9,393				41,299	50,692
Asbestos				9,799					9,799
St. Hyacinthe								8,251	8,251
Windsor Mills			8,066	6,668					8,066
St. Johns				4,092				3,089	9,757
St. Hubert				9,958					4,092
Beloel				12,792					9,958
St. Hilaire				8,001					12,792
Staynerville				97,677					8,001
Noranda									97,677
Montreal	1952	258,183		75,933	32,651		6,555	235,594	608,916
Quebec				31,634				113,980	145,614
Three Rivers			15,875	12,451		26,742		23,098	78,166
Shawinigan Falls			28,304	35,418					63,722
Grand' Mere			22,563						22,563
Beaupre			38,774						38,774
Donnacona			56,933						56,933
LaTuque			7,339						7,339
Nairn's Falls			13,159						13,159
River Bend			75,556						75,556
Dolbeau			45,361						45,361
Port Alfred				80,365					80,365
Chandler				28,289					28,289
Magog				43,507					43,507
Drummondville				3,723					3,723
Sherbrooke Area				6,891				38,280	45,171
Asbestos				27,191					27,191
St. Hyacinthe								6,224	6,224
Windsor Mills			13,725						13,725
St. Johns					6,907				8,454
St. Hubert					9,469			1,547	9,469
Mont Rolland			3,733						3,733



<u>Location</u>	<u>Year</u>	<u>Cement Plants</u>	<u>Paper Mills</u>	<u>Other Industrials</u>	<u>Govt. Buildings</u>	<u>Railways</u>	<u>Bunkers</u>	<u>Distributors</u>	<u>Total</u>
Beloeil	1952			13,615					13,615
St. Hilaire	(Cont.)			10,071					10,071
Staynerville				5,119					5,119
Noranda				95,152					95,152
Montreal	1953	250,571		86,863	37,275	30,564	6,240	288,621	700,134
Quebec				24,852		40,632		56,288	121,772
Three Rivers			40,397	12,329		39,038		23,272	115,036
Shawinigan Falls			62,145	70,632					132,777
Grand' Mere			53,271						53,271
Beaupre			41,963						41,963
Donnacona			54,564						54,564
La Tuque			37,106						37,106
Nairn's Falls			16,822						16,822
River Bend			60,595						60,595
Dolbeau			30,897						30,897
Port Alfred				31,644					31,644
Chandler				32,944					32,944
Magog				32,418					32,418
Drummondville				5,680					5,680
Sherbrooke Area				6,534				50,542	57,076
Asbestos				26,389				5,590	26,389
St. Hyacinthe			14,955						14,955
Windsor Mills									2,888
St. Johns					1,507				1,507
St. Hubert					8,566			1,381	8,566
Mont Rolland			11,326						11,326
Beloeil				14,655					14,655
St. Hilaire				8,925					8,925
Gatineau			94,165						94,165
Staynerville				6,298					6,298
Buckingham			20,424						20,424
Noranda				44,474					44,474



<u>Location</u>	<u>Year</u>	<u>Cement Plants</u>	<u>Paper Mills</u>	<u>Other Industrials</u>	<u>Govt. Buildings</u>	<u>Railways</u>	<u>Bunkers</u>	<u>Distributors</u>	<u>Total</u>
Montreal	1954	240,449		109,161	40,065	48,336	3,893	407,253	849,157
Quebec				33,699				93,409	127,108
Three Rivers			38,905	12,149		50,302		21,624	122,980
Shawinigan Falls			52,197	102,784					154,981
Grand' Mere			33,015						33,015
Beaupre			20,298						20,298
Donnacona			39,556						39,556
LaTuque			8,489						8,489
River Bend			51,315						51,315
Dolbeau			29,591						29,591
Port Alfred				105,606					105,606
Chandler				16,887					16,887
Magog				42,761					42,761
Drummondville				49,689					49,689
Sherbrooke Area				6,138				45,648	51,786
Asbestos				9,987					9,987
St. Hyacinthe				4,650				4,212	8,862
St. Johns								3,644	12,448
St. Hubert									11,285
Mont Rolland			9,667						9,667
Beloeil				14,485					14,485
St. Hilaire				8,525					8,525
Gatineau			123,222						123,222
Staynerville				6,306					6,306
Buckingham			21,020						21,020
Noranda				120,752					120,752





<u>Location</u>	<u>Year</u>	<u>Cement Plants</u>	<u>Paper Mills</u>	<u>Other Industrials</u>	<u>Govt. Buildings</u>	<u>Railways</u>	<u>Bunkers</u>	<u>Distributors</u>	<u>Total</u>
Montreal	1955	245,412		101,356	36,292	73,893	3,586	275,670	736,209
Quebec				33,059		34,314		101,563	168,936
Three Rivers			43,260	14,844		50,692		19,205	128,001
Shawinigan Falls			60,569	130,545					191,114
Grand' Mere			48,182						48,182
Beaupre			45,799						45,799
Donnacona			81,003						81,003
LaTuque			64,603						64,603
River Bend			46,205						46,205
Dolbeau			61,031						61,031
Port Alfred				50,348					50,348
Chandler				12,510					12,510
Magog				40,819					40,819
Drummondville				52,167				43,801	52,167
Sherbrooke Area				6,127					49,928
Asbestos				8,864				2,881	8,864
St. Hyacinthe				4,337					7,218
Windsor Mills			9,639						9,639
St. Johns					9,800				11,545
St. Hubert					10,470			1,745	10,470
Mont Rolland			7,339						7,339
Beloeil				10,970					10,970
St. Hilaire				9,440					9,440
Gatineau			173,568	6,536					173,568
Staynerville									6,536
Buckingham			49,168						49,168
Noranda				104,388					104,388



<u>Location</u>	<u>Year</u>	<u>Cement Plants</u>	<u>Paper Mills</u>	<u>Other Industrials</u>	<u>Govt. Buildings</u>	<u>Railways</u>	<u>Bunkers</u>	<u>Distributors</u>	<u>Total</u>
Montreal	1956	304,473		99,512	30,555	11,248	1,590	258,650	706,008
Quebec				15,463				91,961	107,424
Three Rivers			17,779	9,459				15,846	64,601
Shawinigan Falls			65,383	99,316					164,699
Grand' Mere			33,337			21,517			33,337
Beaupre			50,990						50,990
Donnacona			48,834						48,834
La Tuque			96,809						96,809
River Bend			82,140						82,140
Dolbeau			48,804						48,804
Port Alfred			36,937	25,398					62,335
Magog				51,276					51,276
Drummondville				51,994					51,994
Sherbrooke Area				7,046				39,155	46,201
Asbestos				9,781					9,781
St. Hyacinthe				4,725				2,566	7,291
St. Johns					9,270			1,081	10,351
St. Hubert					12,001				12,001
Mont Rolland			8,979						8,979
Beloeil				13,556					13,556
St. Hilaire				6,627					6,627
Gatineau			123,055						123,055
Staynerville				6,890					6,890
Buckingham			25,349						25,349
Hull		41,276							41,276
Noranda				101,079					101,079



<u>Location</u>	<u>Year</u>	<u>Cement Plants</u>	<u>Paper Mills</u>	<u>Other Industrials</u>	<u>Govt. Buildings</u>	<u>Railways</u>	<u>Bunkers</u>	<u>Distributors</u>	<u>Total</u>
Montreal	1957	322,612		118,020	21,879	373		251,822	714,706
Quebec				30,859				85,728	116,587
Three Rivers			15,339	10,745		1,696		11,960	39,740
Shawinigan Falls			34,876	76,771					111,647
Grand' Mere			32,098						32,098
Beaupre			15,555						15,555
Donnacona			63,560						63,560
LaTuque			62,830						62,830
River Bend			38,573						38,573
Dolbeau			33,385						33,385
Port Alfred			34,027						72,310
Magog				38,283					50,712
Drummondville				50,712					39,220
Sherbrooke Area				39,220				39,254	46,525
Asbestos				7,271					7,914
St. Hyacinthe				7,914				2,712	7,389
St. Johns				4,677				867	867
Mont Rolland			9,404						9,404
Beloeil				13,978					13,978
St. Hilaire				6,844					6,844
Gatineau			89,108						89,108
Staynerville				6,712					6,712
Buckingham			21,918						21,918
Hull		47,569							47,569
Noranda				128,357					128,357



<u>Location</u>	<u>Year</u>	<u>Cement Plants</u>	<u>Paper Mills</u>	<u>Other Industrials</u>	<u>Govt. Buildings</u>	<u>Railways</u>	<u>Bunkers</u>	<u>Distributors</u>	<u>Total</u>
Montreal	1958	300,370		128,025	35,950	38,799		265,638	768,782
Quebec				24,956				86,804	111,760
Three Rivers			21,340	10,276		2,744		5,882	40,242
Shawinigan Falls			4,993	62,602					67,595
Grand' Mere			1,316						1,316
Beaupre			16,011						16,011
Donnacona			46,825						46,825
LaTuque			21,194						21,194
River Bend			14,519						14,519
Magog				51,137					51,137
Drummondville				14,926					14,926
Sherbrooke Area				7,070				35,021	42,091
Asbestos				2,553					2,553
St. Hyacinthe				4,638				4,568	9,206
St. Johns					6,835			3,895	10,730
St. Hubert					13,688				13,688
Mont Rolland			8,399						8,399
Beloeil				9,481					9,481
St. Hilaire				6,671					6,671
Gatineau			169,432						169,432
Staynerville				6,398					6,398
Buckingham			1,426						1,426
Hull		47,094							47,094
Noranda				139,598					139,598





<u>Location</u>	<u>Year</u>	<u>Cement Plants</u>	<u>Paper Mills</u>	<u>Other Industrials</u>	<u>Govt. Buildings</u>	<u>Railways</u>	<u>Bunkers</u>	<u>Distributors</u>	<u>Total</u>
Montreal	1959	313,763		69,240	31,460			270,050	684,513
Quebec				15,000				96,000	111,000
Three Rivers			23,000	9,000				7,000	39,000
Shawinigan Falls			20,000	55,000					75,000
Grand' Mere			10,000						10,000
Beaupre			15,500						15,500
Donnacona			45,000						45,000
LaTuque			22,000						22,000
River Bend			15,000						15,000
Magog				30,000				35,000	30,000
Sherbrooke Area									35,000
St. Hyacinthe				4,700				2,500	7,200
St. Johns								3,500	10,500
St. Hubert									12,500
Mont Rolland			9,300						9,300
Beloeil				8,600					8,600
St. Hilaire				6,600					6,600
Gatineau			225,000	6,600					225,000
Staynerville									6,600
Buckingham			4,400						4,400
Hull		29,879							29,879
Noranda				140,000					140,000



DOSCO COAL SHIPMENTS  
TO CHIEF ONTARIO CONSUMING CENTRES

Destination	1945 to '52		Net Tons 1945 to 1959				Destination Total	
	1953	1954	1955	1956	1957	1958	1959	Total
Ontario:								
Ottawa:								
Paper Mills	1,587	25,952	50,215	57,564	59,360	57,638	57,000	309,316
Distributors	13,594	51,359	56,647	32,231	40,518	88,485	90,000	372,834
Hawkesbury:								
Paper Mills	38,258	61,946	64,970	38,986	38,799	36,193	38,600	317,752
Cornwall:								
Paper Mills						63,636	65,000	128,636
Kingston:								
Govt. Bldgs.						9,456	18,000	27,456
Distributors						10,439	8,500	18,939
Trenton:								
Govt. Bldgs.						12,957	17,500	30,457
Point Anne:								
Cement Plants						100,986	89,022	190,008
Oshawa:								
Other Indust.							12,700	12,700
Toronto:								
Other Indust.						23,176	27,000	50,776
Govt. Bldgs.						8,211	17,000	25,211
Distributors						5,425	1,000	6,425
Port Colborne:								
Cement Plants							18,863	18,863
Thorold:								
Paper Mills							8,063	8,063
Woodstock:								
Cement Plants							91,232	91,232
London:								
Govt. Bldgs.						4,947	11,000	15,947
Copper Cliff:								
Other Industrials						42,267	80,000	122,267
Yearly Totals:	53,439	139,257	171,832	128,781	138,677	464,416	650,480	746,882



ESTIMATED COAL SALES - COAL YEARS

	<u>1959/60</u>	<u>1960/61</u>	<u>1961/62</u>	<u>1962/63</u>	<u>1963/64</u>	<u>1964/65</u>	<u>1965/66</u>	<u>1966/67</u>	<u>1967/68</u>	<u>1968/69</u>
Atlantic Provinces										
Quebec	2,200,000	2,170,200	2,241,000	2,307,900	2,345,900	2,345,900	2,345,900	2,345,900	2,345,900	2,345,900
Ontario	1,625,000	1,221,330	1,221,330	1,221,330	1,221,330	1,221,330	1,221,330	1,221,330	1,221,330	1,221,330
	<u>750,000</u>	<u>562,500</u>	<u>562,500</u>	<u>562,500</u>	<u>562,500</u>	<u>562,500</u>	<u>562,500</u>	<u>562,500</u>	<u>562,500</u>	<u>562,500</u>
	4,575,000	3,954,030	4,024,830	4,091,730	4,129,730	4,129,730	4,129,730	4,129,730	4,129,730	4,129,730
Add Quebec Thermal Plants	-	-	-	-	-	300,000	500,000	500,000	700,000	700,000
Add Ontario Hydro	-	-	500,000	700,000	700,000	700,000	700,000	700,000	700,000	700,000
Add Prepared Sizes (Available from Hydro Slack Prod.)	-	-	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000
Add Gatineau & Hawkesbury (If still on coal)	Incl. in above	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000
	4,575,000	4,204,030	5,024,830	5,291,730	5,329,730	5,629,730	5,829,730	5,829,730	6,029,730	6,029,730
*Less poss. gas conversions	-	250,000	666,500	666,500	666,500	666,500	666,500	666,500	666,500	666,500
Less Screened available if gas conversions occur	-	-	208,000	108,250	-	-	-	-	-	-
	4,575,000	3,954,030	4,150,330	4,516,980	4,554,980	4,963,230	5,163,230	5,163,230	5,363,230	5,363,230

\*During the year 1960/61 and those following, sales may be considerably less than estimated due to gas competition in the Province of Quebec.



DOSCO COAL SHIPMENTS

NET TONS

<u>Year</u>	<u>Atlantic Provinces</u>	<u>Export</u>	<u>Quebec</u>	<u>Ontario</u>	<u>Total</u>
1950	3,917,118	43,555	2,020,338	-	5,981,011
1951	3,676,453	44,010	1,936,396	-	5,656,859
1952	3,555,359	44,738	1,661,807	-	5,261,904
1953	3,206,052	-	1,733,076	27,129	4,966,257
1954	2,866,169	-	2,128,589	198,601	5,193,359
1955	2,869,040	259,559	2,323,751	179,199	5,631,549
1956	2,855,796	235,230	2,303,071	180,549	5,574,646
1957	2,836,834	-	1,764,014	114,025	4,714,873
1958	2,190,029	-	1,640,893	503,145	4,334,067







